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ABSTRACT

This document consists of the 12 monthly issues of this research newsletter for 2002. The purpose of the newsletter is to inform those who formulate, fund, and administer public policy and programs about research on the condition of and influences that affect postsecondary education opportunity for all Americans. Main topics for the issues are: (1) "The Rise and Fall of State Investment Effort in Higher Education, 1962 to 2002" (issue number 115); (2) "Earned Degrees Conferred by Gender 1870 to 2000" (number 116); (3) "Institutional Graduation Rates by Control, Academic Selectivity and Degree Level 1983 to 2001" (number 117); (4) "Higher Education Equity Indices by Race/Ethnicity and Gender 1940 to 2000" (number 118); (5) "Public High School Completion by State and Race/Ethnicity 1981 to 2000" (number 119); (6) "College Continuation Rates for Recent High School Graduates 1959 to 2001" (number 120); (7) "State Priorities...and Behaviors. State Appropriations, Public Institution Tuition Rates and State Student Financial Aid Appropriations FY1975 to FY2002" (number 121); (8) "College Participation Rates by State for Students from Low Income Families FY1993 to FY2001" (number 122); (9) "Chance for College by Age 19 by State in 2000" (number 123); (10) "Interstate Migration of College Freshmen 1986 to 2000" (number 124); (11) "Time for a Fundamental Re-Evaluation of the Bad Policy Decisions of the 1990s. An Editorial" (number 125); and (12) "State Investment Effort in Higher Education FY1962 to FY2003" (number 126). (SLD)

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Postsecondary Education
OPPORTUNITY

The Mortenson Research Seminar on Public Policy Analysis of Opportunity for Postsecondary Education

Number 115 **www.postsecondary.org** **January 2002**

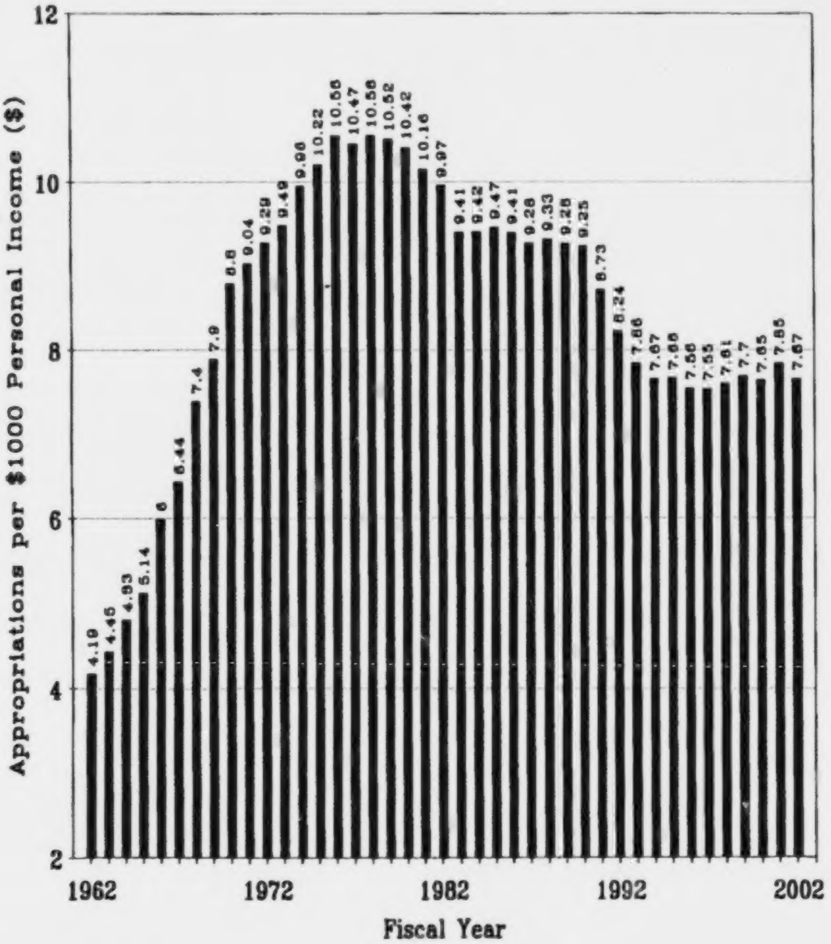
The Rise and Fall of State Investment Effort in Higher Education, 1962 to 2002

One of the profoundly troubling paradoxes of higher education opportunity in the states is the sharp retrenchment of state efforts to invest in higher education over the last two decades. This has occurred at the same time that higher education has become clearly more important to state economic welfare than it has ever been before. Over the last twenty-five years, the tax effort made by states to fund higher education has declined in every state, by an average of 27.4 percent when controlled by state personal income.

Governors and legislators have decided that Medicaid, corrections, police and law courts are more important funding priorities than is any other state function and budget category. State funds previously committed to higher education have been diverted to other programmatic, budget and political priorities.

The FY2002 state tax fund appropriations for higher education have only recently been finalized in some states. They total about $63.6 billion in the 50 states, with an additional $5.1 billion provided by local governments in 25 states.

Appropriations of State Tax Funds for Operating Expenses of Higher Education per $1000 of Personal Income FY1962 to FY2002



If state revenues continue to sour during the current economic recession, appropriations may yet be revised downward as states partially rescind previously approved spending authority. During the recessions of the early 1980s and early 1990s, state higher education appropriations were hit hard when state revenues were reduced during the recession phase of the business cycle. This typically produces large tuition increases to students as public institutions offset some of the state revenue losses. If financial aid funding is not increased to offset the higher costs of attendance, some students can be expected to find access, choice and persistence no longer affordable.

Our analyses here focus on state (and local) government tax fund appropriations for higher education over the last four decades, from FY1962 through FY2002.

We measure state higher education investment effort over this period by controlling for the tax base available in each state which is state personal income. The measure of this investment effort for each state and year is state tax fund appropriations for higher education per $1000 of state personal income. For FY2002 this was $7.67 appropriated for higher education per $1000 of state personal income, plus about $.66 per $1000 of personal income provided by local governments (through property taxes supporting community colleges in 25 states). The FY2002 state investment effort of $7.67 was down slightly from $7.85 in FY2001, which is consistent with earlier appropriations patterns in early stages of economic recession.

Measured in this manner, state higher education investment effort reached all time lows in three states in FY2002: **Colorado, New Hampshire and Washington.** In these three states tax fund appropriations for higher education per $1000 of state personal income were lower than they had been at any time in the last 41 years.

In other states, higher education investment effort has been in free fall decline for more than two decades. These states include: **Arizona, Minnesota, South Carolina, South Dakota, Tennessee and Wisconsin.**

In another set of states, higher education investment effort can almost be described as being in free fall: **Alabama, Delaware, Georgia, Hawaii, Montana, Nevada, New York, North Carolina, Pennsylvania, Utah, Vermont and West Virginia.**

But in a few states, the reduction in investment effort over the last two decades has been so small that they may be best described as having maintained their investment effort. These states include: **Arkansas, Kentucky, Mississippi, Nevada, New Mexico, Ohio and Oklahoma.**

The Data

The data analyzed here come from two sources. State and local government tax fund appropriations for higher education are collected and reported each year through Grapevine at Illinois State University. State personal income data are gathered, reported and frequently revised and updated by the Bureau of Economic Analysis.

The Grapevine data on state tax fund appropriations for higher education have been collected since 1961-62 at Illinois State University. These data are available through the Grapevine website at:

http://www.coe.ilstu.edu/grapevine

We are especially grateful to Prof. Jim Palmer at Illinois State University for his assistance in making unpublished data available to OPPORTUNITY for this analysis.

The Grapevine data are defined as follows:

- Appropriations, not actual expenditures
- Only amounts reported for annual operating expenses
- Included are sums appropriated for state colleges, state-supported community colleges, and for vocational-technical two-year colleges or institutes that are primarily for high school graduates or adult learners
- Sums appropriated for statewide coordinating or governing boards
- Sums appropriated for state student financial aid programs

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Mission Statement

This research letter is founded on two fundamental beliefs. First, sound public social policy requires accurate, current, independent, and focused information on the human condition. Second, education is essential to the development of human potential and resources for both private and public benefit. Therefore, the purpose of this research letter is to inform those who formulate, fund, and administer public policy and programs about the condition of and influences that affect postsecondary education opportunity for all Americans.

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- Sums appropriated to other state agencies for higher education purposes
- Appropriated sums to private higher education

Excluded from these sums are:

- Appropriations for capital outlays and debt service
- Appropriations of funds derived from federal sources, student fees, auxiliary enterprises and other non-tax sources

In addition to the state appropriations, Grapevine has collected and reported data on sums provided by local government for higher education in the 25 states that provide such support. These data were first collected in FY1993, and are most complete for the last five years, FY1997 through FY2001. This is mainly property taxes allocated for community colleges. These data are available on the Grapevine website.

The state personal income data are provided by the Bureau of Economic Analysis, and are available through the BEA website at:

http://www.bea.doc.gov

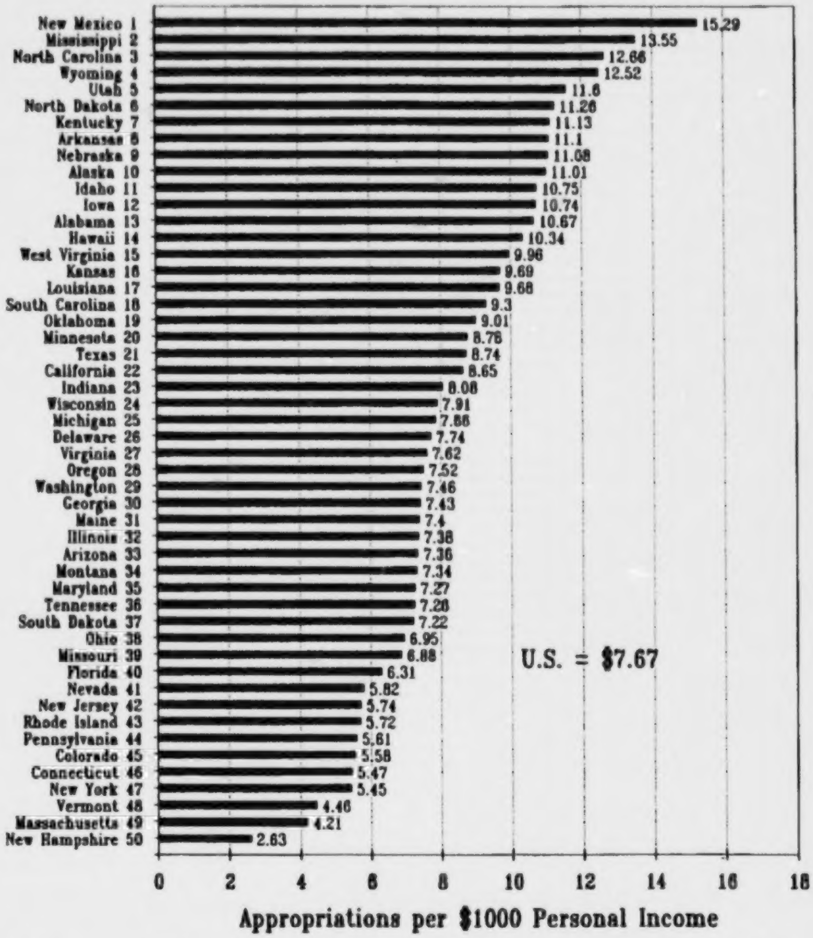
These data are frequently revised and updated, and are the least stable data used by OPPORTUNITY in any of the many analyses we do.

Personal income consists of earnings (wage and salary disbursements, other labor income and proprietors' income), dividends, interest and rent, and transfer payments received by state residents.

We have compiled all of the state and local appropriations data from Grapevine, and the state personal income data from BEA, for each state and year in a single Excel workbook available on our website at:

http://www.postsecondary.org

The state charts produced from these data are also available on the each state's page on the website too.



Appropriations of State Tax Funds for Operating Expenses of Higher Education per $1000 of Personal Income FY2002

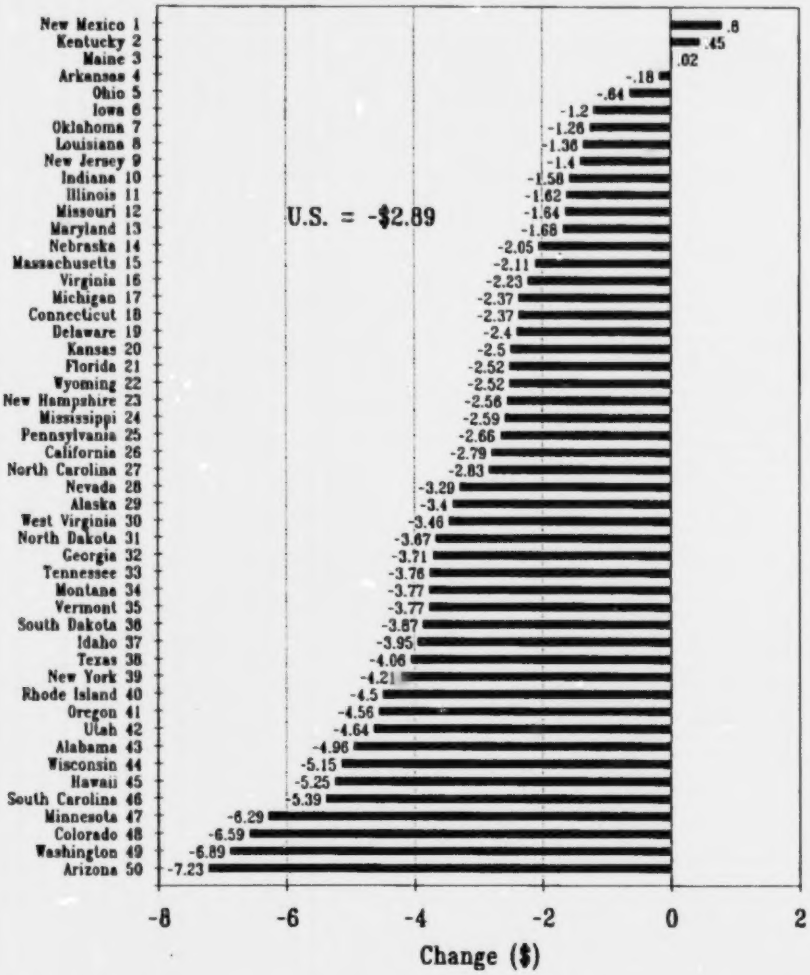
State Investment Effort

For FY2002 states have appropriated $63.6 billion for higher education. Internet gossip indicates several states expect their current year appropriations to be reduced, with further reductions in state funding to follow next fiscal year. However, until these data are revised next fall, they stand here as state tax fund appropriations for higher education for the current 2001-02 fiscal year.

Total personal income in the 50 states for CY2000 was estimated by BEA at $8,300.4 billion. Therefore, state tax funding for higher education was $7.67 per $1000 of personal income for FY2002.

The chart on page 1 of this issue of OPPORTUNITY shows the total state investment effort in higher education for each of the last 41 fiscal years, FY1962 through FY2002. Over this time period, state appropriations per $1000 of personal income rose from $4.19 in FY1962, to a peak of $10.56 in FY1976 and FY1978. Thereafter state funding was ratcheted downward in the two economic recessions of late

Change In State Tax Fund Appropriations per $1000 of State Personal Income between FY1978 and FY2002



1979 through 1982, and again in the early 1990s. Quite likely, the current economic recession will produce similar reductions in state investment effort.

As this chart shows, there are two distinct periods evident in the data. The first period is the rapid growth between FY1962 and FY1976, when states responded to the arrival of the post World War II baby boom. These babies, born beginning in 1946, began arriving on college campuses 18 years later, beginning about 1964. Between the fall of 1961 and the fall of 1975, enrollment in public higher education institutions increased from 2.6 million to 8.8 million students, an increase of 238 percent. State investment effort supported this, rising by 152 percent.

But after FY1978, state investment effort in higher education began to decline. From $10.56 per $1000 of personal income in FY1978, the state effort began to decline to $7.67 in FY2002, or by 27.4 percent. Since 1978, however, enrollment in public institutions has continued to grow, by 2.3 million students or by 26 percent.

Between FY1978 and FY2002, the declines in state higher education investment effort are concentrated in two brief periods of economic recession. The first decline occurred between about FY1980 and FY1983, when the state investment effort fell by $1.01 per $1000 of personal income. The second decline occurred between FY1990 and about FY1994, when the state effort declined by another $1.58. Of the total decline between FY1978 and FY2002 of $2.89, 90 percent occurred during these two short periods.

These retrenchment periods were characterized by the recession phase of the business cycle. During these years, governors and legislators chose to reduce state investment effort for higher education to address other state budget priorities. Our analyses of long term expenditure patterns of state and local governments (using data from the National Income and Product Accounts, OPPORTUNITY #113 November 2001) shows increases in budget shares allocated to Medicaid, corrections, police and law courts, and declining shares allocated to all other state and local government functions.

The States

The chart on page 3 ranks the 50 states by their state tax fund investment effort in higher education: state tax fund appropriations to higher education per $1000 of state personal income.

In FY2002 state higher education funding ranged from $15.29 per $1000 of state personal income in New Mexico, to $2.63 in New Hampshire. There are many important reasons why state investment effort varies so widely.

- A good part of these differences can be explained by the difference in roles played by private higher education across the states. In New Mexico, for example, about

93 percent of higher education enrollment is in public institutions, compared to 53 percent in New Hampshire.

- It also appears from these data that some poorer states try harder to fund their public higher education institutions than do wealthier states. Using these two states as examples, per capita personal income in New Mexico was $21,883 compared to $33,042 in New Hampshire.

More important than the difference between states, however, are the trends within states over time. While states are only roughly comparable with each other, states can be appropriately compared to themselves over time. We make two such comparisons here.

The first comparison is in the chart on page 4. Here we compare each state's effort to fund higher education in FY2002 with it's effort in FY1978, when nationally state efforts reached their peak. In only three states does the FY2002 state investment effort in higher education exceed the effort made in FY1978: New Mexico, Kentucky and Maine.

In the other 47 states, the state investment effort in FY2002 fell below the effort made in FY1978. In seven states the higher education investment effort declined by more than $5.00 per $1000 of state personal income: **Arizona** (-$7.23), **Washington** (-$6.89), **Colorado** (-$6.59), **Minnesota** (-$6.29), **South Carolina** (-$5.39), **Hawaii** (-$5.25) and **Wisconsin** (-$5.15).

Expressed as a percentage reduction in effort, a somewhat similar ranking results. **Colorado** ranks at the bottom of the list of the states with a reduction in state investment in higher education of 54.1 percent. Colorado has reduced its funding effort by more than half over the last 24 fiscal years. Other states with percentage reductions of more than 40 percent between FY1978 and FY2002 are: **Arizona** (-49.6 percent, **New Hampshire** (-49.4 percent), **Washington** (-48.0 percent), **Vermont** (-45.8 percent), **Rhode Island** (-44.0 percent), New York (-43.6 percent) and **Minnesota** (-41.7 percent).

The charts that begin on page 8 of this issue of OPPORTUNITY illustrate state tax fund appropriations per $1000 of personal income for higher education in each of the 50 states. The appropriations and personal income data used to prepare these charts are available for examination on our website at:

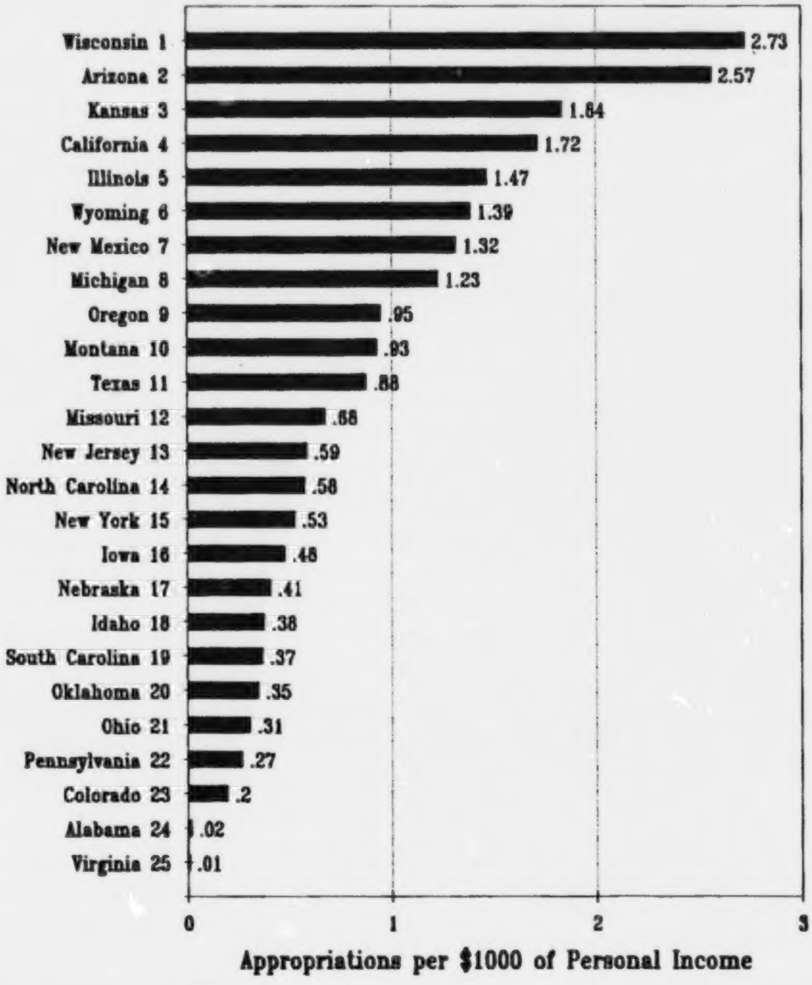
http://www.postsecondary.org

These charts are also available as .pdf files in somewhat larger size on the state page on our website.

Local Government Appropriations

In 25 states local governments provide funding for the operations of public higher education institutions. For FY2001 this was estimated to total $5.1 billion, in addition to the $60.8 billion provided by state governments in FY2001.

Local Tax Fund Appropriations for Higher Education per $1000 of Personal Income, FY2001



State Tax Fund Appropriations per $1000 of State Personal Income for Higher Education, FY1978 to FY2002

														Change: Fy1978 to FY2002	
State	FY1978	FY1980	FY1982	FY1984	FY1986	FY1988	FY1990	FY1992	FY1994	FY1996	FY1998	FY2000	FY2001	FY2002	Dollars	Percent
Alabama	$ 15.63	$ 13.83	$ 12.23	$ 12.47	$ 16.20	$ 13.76	$ 13.94	$ 12.77	$ 12.34	$ 11.99	$ 11.20	$ 11.39	$ 10.81	$ 10.67	$ (4.96)	-31.7%
Alaska	$ 14.40	$ 19.13	$ 28.18	$ 26.96	$ 23.72	$ 14.01	$ 16.54	$ 14.32	$ 12.85	$ 11.44	$ 10.70	$ 10.30	$ 10.99	$ 11.01	$ (3.40)	-23.6%
Arizona	$ 14.58	$ 12.18	$ 11.36	$ 10.53	$ 10.75	$ 10.25	$ 9.93	$ 9.43	$ 8.80	$ 8.40	$ 8.22	$ 7.67	$ 7.48	$ 7.36	$ (7.23)	-49.6%
Arkansas	$ 11.29	$ 11.63	$ 10.44	$ 9.61	$ 12.22	$ 9.89	$ 10.51	$ 11.22	$ 10.63	$ 10.57	$ 10.61	$ 11.25	$ 11.36	$ 11.10	$ (0.18)	-1.6%
California	$ 11.44	$ 12.81	$ 11.26	$ 9.42	$ 9.95	$ 10.70	$ 9.94	$ 8.89	$ 6.36	$ 7.06	$ 7.90	$ 8.27	$ 8.99	$ 8.65	$ (2.79)	-24.4%
Colorado	$ 12.17	$ 10.45	$ 9.73	$ 9.25	$ 8.54	$ 8.64	$ 8.97	$ 7.71	$ 7.20	$ 6.75	$ 6.52	$ 6.07	$ 5.85	$ 5.58	$ (6.59)	-54.1%
Connecticut	$ 7.84	$ 7.53	$ 5.92	$ 5.85	$ 5.90	$ 6.41	$ 6.51	$ 5.71	$ 5.31	$ 5.29	$ 5.32	$ 5.57	$ 5.42	$ 5.47	$ (2.37)	-30.2%
Delaware	$ 10.14	$ 10.29	$ 11.22	$ 10.20	$ 10.09	$ 9.62	$ 9.24	$ 8.36	$ 7.90	$ 8.23	$ 8.01	$ 8.03	$ 8.09	$ 7.74	$ (2.40)	-23.7%
Florida	$ 8.83	$ 8.99	$ 8.11	$ 7.76	$ 7.44	$ 7.60	$ 7.19	$ 5.75	$ 5.65	$ 5.87	$ 6.44	$ 6.52	$ 6.77	$ 6.31	$ (2.52)	-28.5%
Georgia	$ 11.14	$ 10.42	$ 10.73	$ 10.04	$ 9.37	$ 8.92	$ 8.82	$ 7.58	$ 7.92	$ 8.20	$ 8.10	$ 7.76	$ 7.50	$ 7.43	$ (3.71)	-33.3%
Hawaii	$ 15.59	$ 14.64	$ 13.60	$ 14.05	$ 13.62	$ 14.09	$ 13.69	$ 13.66	$ 13.34	$ 12.05	$ 11.57	$ 10.74	$ 10.45	$ 10.34	$ (5.25)	-33.7%
Idaho	$ 14.71	$ 12.75	$ 11.48	$ 10.78	$ 10.85	$ 11.74	$ 11.85	$ 12.17	$ 10.95	$ 10.87	$ 10.27	$ 10.31	$ 10.31	$ 10.75	$ (3.95)	-26.9%
Illinois	$ 9.00	$ 8.78	$ 8.14	$ 7.60	$ 7.85	$ 7.18	$ 8.09	$ 7.20	$ 6.78	$ 6.88	$ 6.96	$ 7.11	$ 7.26	$ 7.38	$ (1.62)	-18.0%
Indiana	$ 9.66	$ 9.27	$ 8.94	$ 8.75	$ 8.98	$ 9.36	$ 9.50	$ 9.19	$ 8.45	$ 8.04	$ 8.22	$ 8.21	$ 8.26	$ 8.08	$ (1.58)	-16.4%
Iowa	$ 11.94	$ 11.45	$ 11.45	$ 11.13	$ 10.53	$ 11.28	$ 12.46	$ 11.56	$ 11.96	$ 11.62	$ 11.57	$ 11.57	$ 11.70	$ 10.74	$ (1.20)	-10.0%
Kansas	$ 12.19	$ 12.67	$ 11.72	$ 10.65	$ 10.47	$ 9.96	$ 10.83	$ 10.01	$ 9.62	$ 9.56	$ 9.43	$ 9.57	$ 9.69	$ 9.69	$ (2.50)	-20.5%
Kentucky	$ 10.68	$ 12.24	$ 12.17	$ 11.34	$ 10.59	$ 11.19	$ 11.02	$ 11.18	$ 9.69	$ 9.57	$ 9.82	$ 10.50	$ 10.97	$ 11.13	$ 0.45	4.3%
Louisiana	$ 11.04	$ 11.66	$ 12.19	$ 10.95	$ 10.55	$ 9.33	$ 9.37	$ 9.17	$ 7.83	$ 7.34	$ 8.76	$ 9.05	$ 8.85	$ 9.68	$ (1.36)	-12.4%
Maine	$ 7.38	$ 7.61	$ 7.07	$ 6.84	$ 7.49	$ 8.98	$ 9.12	$ 8.04	$ 7.60	$ 7.41	$ 7.04	$ 7.23	$ 7.45	$ 7.40	$ 0.02	0.3%
Maryland	$ 8.94	$ 8.71	$ 8.13	$ 7.70	$ 7.77	$ 7.62	$ 8.56	$ 6.49	$ 6.27	$ 6.30	$ 6.23	$ 6.59	$ 7.03	$ 7.27	$ (1.68)	-18.7%
Massachusetts	$ 6.32	$ 6.47	$ 6.81	$ 7.27	$ 7.86	$ 8.45	$ 6.45	$ 4.18	$ 5.55	$ 4.76	$ 5.13	$ 5.07	$ 4.95	$ 4.21	$ (2.11)	-33.3%
Michigan	$ 10.22	$ 9.94	$ 8.84	$ 8.69	$ 9.38	$ 9.17	$ 8.87	$ 8.66	$ 8.57	$ 7.65	$ 7.68	$ 7.88	$ 8.10	$ 7.86	$ (2.37)	-23.2%
Minnesota	$ 15.08	$ 14.08	$ 13.16	$ 12.54	$ 11.88	$ 12.21	$ 12.53	$ 11.34	$ 10.39	$ 9.96	$ 9.67	$ 9.19	$ 9.20	$ 8.78	$ (6.29)	-41.7%
Mississippi	$ 16.15	$ 16.18	$ 16.83	$ 16.28	$ 15.32	$ 13.49	$ 14.37	$ 11.68	$ 11.95	$ 14.23	$ 14.26	$ 15.92	$ 14.45	$ 13.55	$ (2.59)	-16.1%
Missouri	$ 8.53	$ 8.30	$ 7.00	$ 6.64	$ 6.96	$ 6.90	$ 7.13	$ 6.32	$ 6.19	$ 6.43	$ 6.78	$ 7.03	$ 7.01	$ 6.88	$ (1.64)	-19.3%
Montana	$ 11.11	$ 9.99	$ 11.61	$ 12.08	$ 11.05	$ 10.88	$ 10.23	$ 10.49	$ 8.90	$ 7.91	$ 7.48	$ 7.30	$ 7.34	$ 7.34	$ (3.77)	-33.9%
Nebraska	$ 13.13	$ 11.91	$ 12.46	$ 10.92	$ 10.22	$ 10.19	$ 11.67	$ 11.90	$ 11.36	$ 11.23	$ 10.48	$ 10.96	$ 11.70	$ 11.08	$ (2.05)	-15.6%
Nevada	$ 9.10	$ 8.09	$ 6.90	$ 6.58	$ 7.07	$ 7.16	$ 7.50	$ 7.61	$ 6.43	$ 6.25	$ 6.73	$ 5.88	$ 5.68	$ 5.82	$ (3.29)	-36.1%
New Hampshire	$ 5.19	$ 4.28	$ 4.29	$ 3.65	$ 3.54	$ 3.85	$ 3.23	$ 3.26	$ 3.26	$ 3.08	$ 2.94	$ 2.72	$ 2.69	$ 2.63	$ (2.56)	-49.4%
New Jersey	$ 7.13	$ 6.91	$ 6.45	$ 6.17	$ 6.37	$ 6.80	$ 6.58	$ 6.03	$ 6.12	$ 6.12	$ 5.63	$ 5.54	$ 5.75	$ 5.74	$ (1.40)	-19.6%
New Mexico	$ 14.49	$ 16.17	$ 16.78	$ 16.22	$ 14.78	$ 14.70	$ 14.93	$ 15.37	$ 15.15	$ 15.73	$ 14.63	$ 14.76	$ 15.00	$ 15.29	$ 0.80	5.5%
New York	$ 9.66	$ 9.70	$ 9.52	$ 9.23	$ 9.09	$ 9.04	$ 8.62	$ 6.90	$ 6.50	$ 5.92	$ 5.37	$ 5.44	$ 5.66	$ 5.45	$ (4.21)	-43.6%
North Dakota	$ 14.93	$ 14.91	$ 15.59	$ 14.82	$ 14.85	$ 15.11	$ 14.56	$ 12.51	$ 12.48	$ 11.90	$ 11.97	$ 11.79	$ 11.92	$ 11.26	$ (3.67)	-24.6%
North Carolina	$ 15.49	$ 11.68	$ 19.75	$ 15.03	$ 14.38	$ 13.17	$ 15.51	$ 14.38	$ 12.83	$ 12.47	$ 12.72	$ 12.42	$ 12.48	$ 12.66	$ (2.83)	-18.3%
Ohio	$ 7.59	$ 7.44	$ 6.48	$ 7.15	$ 7.66	$ 7.90	$ 7.89	$ 6.93	$ 6.60	$ 6.85	$ 7.05	$ 7.04	$ 7.20	$ 6.95	$ (0.64)	-8.4%
Oklahoma	$ 10.27	$ 10.63	$ 11.18	$ 10.27	$ 10.22	$ 8.94	$ 10.03	$ 10.63	$ 9.59	$ 9.05	$ 10.05	$ 9.91	$ 10.20	$ 9.01	$ (1.26)	-12.3%
Oregon	$ 12.09	$ 10.77	$ 9.38	$ 9.21	$ 9.10	$ 9.21	$ 8.99	$ 8.84	$ 7.36	$ 7.14	$ 7.35	$ 7.72	$ 7.76	$ 7.52	$ (4.56)	-37.8%
Pennsylvania	$ 8.27	$ 7.53	$ 6.85	$ 6.52	$ 6.59	$ 6.56	$ 6.68	$ 6.29	$ 5.87	$ 5.95	$ 5.74	$ 5.67	$ 5.84	$ 5.61	$ (2.66)	-32.2%
Rhode Island	$ 10.21	$ 9.74	$ 9.11	$ 7.99	$ 7.75	$ 7.74	$ 7.04	$ 5.23	$ 5.30	$ 5.38	$ 5.34	$ 5.50	$ 5.64	$ 5.72	$ (4.50)	-44.0%
South Carolina	$ 14.69	$ 16.63	$ 14.77	$ 13.49	$ 13.95	$ 12.72	$ 12.78	$ 10.86	$ 10.10	$ 9.93	$ 9.76	$ 9.37	$ 9.67	$ 9.30	$ (5.39)	-36.7%
South Dakota	$ 11.09	$ 10.32	$ 10.41	$ 8.48	$ 7.65	$ 8.48	$ 8.90	$ 8.79	$ 8.22	$ 8.30	$ 7.60	$ 7.44	$ 7.41	$ 7.22	$ (3.87)	-34.9%
Tennessee	$ 11.03	$ 10.91	$ 9.58	$ 9.01	$ 10.21	$ 10.34	$ 9.86	$ 8.26	$ 8.67	$ 8.46	$ 7.63	$ 7.33	$ 7.50	$ 7.26	$ (3.76)	-34.1%
Texas	$ 12.80	$ 12.32	$ 13.34	$ 12.45	$ 10.28	$ 9.51	$ 10.28	$ 9.48	$ 9.43	$ 8.56	$ 8.30	$ 7.95	$ 8.28	$ 8.74	$ (4.06)	-31.7%
Utah	$ 16.24	$ 14.45	$ 13.94	$ 13.02	$ 13.41	$ 12.63	$ 13.17	$ 12.63	$ 12.30	$ 12.29	$ 11.67	$ 10.93	$ 11.13	$ 11.60	$ (4.64)	-28.6%
Vermont	$ 8.23	$ 7.72	$ 7.60	$ 7.43	$ 6.94	$ 6.76	$ 6.47	$ 5.16	$ 4.81	$ 4.62	$ 4.36	$ 4.30	$ 4.39	$ 4.46	$ (3.77)	-45.8%
Virginia	$ 9.86	$ 10.45	$ 9.96	$ 9.33	$ 9.55	$ 9.71	$ 9.72	$ 7.55	$ 6.77	$ 6.33	$ 6.78	$ 7.67	$ 7.98	$ 7.62	$ (2.23)	-22.7%
Washington	$ 14.35	$ 8.98	$ 10.98	$ 11.06	$ 10.31	$ 10.27	$ 10.40	$ 9.39	$ 8.55	$ 8.09	$ 7.97	$ 7.58	$ 7.65	$ 7.46	$ (6.89)	-48.0%
West Virginia	$ 13.42	$ 12.28	$ 12.06	$ 10.85	$ 11.62	$ 11.00	$ 10.94	$ 10.87	$ 10.20	$ 10.33	$ 10.45	$ 9.87	$ 10.32	$ 9.96	$ (3.46)	-25.8%
Wisconsin	$ 13.06	$ 12.20	$ 11.11	$ 10.87	$ 10.43	$ 10.21	$ 10.18	$ 9.70	$ 9.41	$ 8.79	$ 8.22	$ 7.80	$ 8.16	$ 7.91	$ (5.15)	-39.5%
Wyoming	$ 15.04	$ 12.78	$ 14.83	$ 15.31	$ 16.01	$ 16.45	$ 16.69	$ 15.31	$ 13.76	$ 13.00	$ 12.73	$ 11.52	$ 12.02	$ 12.52	$ (2.52)	-16.7%
Total	$ 10.56	$ 10.42	$ 9.97	$ 9.42	$ 9.41	$ 9.33	$ 9.25	$ 8.24	$ 7.67	$ 7.56	$ 7.61	$ 7.65	$ 7.85	$ 7.67	$ (2.89)	-27.4%

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Controlling for personal income, the local tax funding effort for higher education ranged from $2.73 in Wisconsin to $.01 in Virginia. In eight states the local government investment effort exceeded $1.00 in FY2001. In addition to Wisconsin, these states were: **Arizona** ($2.57), **Kansas** ($1.84), **California** ($1.72), **Illinois** ($1.47), **Wyoming** ($1.39), **New Mexico** ($1.32) and **Michigan** ($1.23).

When these local funding efforts are added to state funding efforts, a more complete picture of public investment in higher education in each state emerges, as shown in the chart on this page. For FY2001 New Mexico extends its lead over all other states in investment effort in higher education. Its state effort of $15.00 and its local addition of $1.32 give a total of $16.32 in FY2001. Other states with large local government efforts such as **Wisconsin, Arizona, Kansas, California, Illinois** and **Michigan** improve their state funding only rankings among the states.

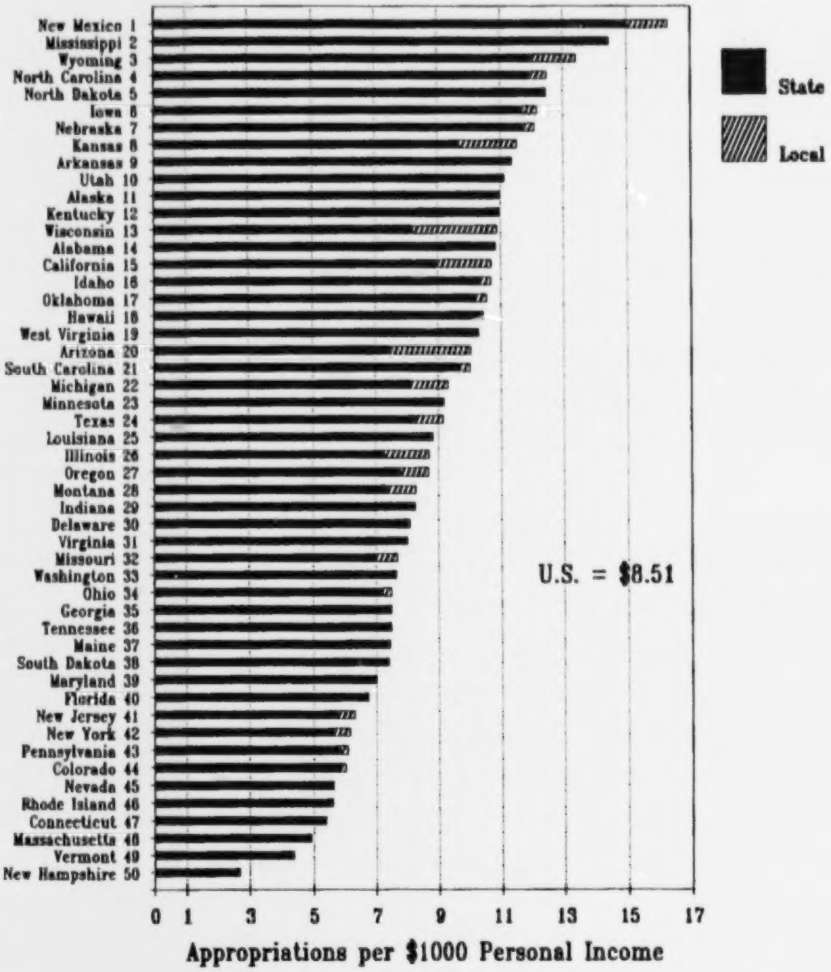
Discussion

Our main concern in this analysis has been the decline in state investment effort in higher education since the late 1970s.

- Between FY1978 and FY2002, state investment effort in higher education declined from $10.56 to $7.67 per $1000 of personal income.
- This was a decline of $2.89 per $1000 of personal income, or 27.4 percent.
- This decline was widespread, occurring in 47 of the 50 states during this period. The percentage decline ranged up to 54.1 percent in **Colorado**. The dollar decline ranged up to $7.23 in **Arizona**.

Our interest in this analysis results from the aims of public policy to foster opportunity for postsecondary education and training. Opportunity costs real money: for capacity, for quality and for affordability. When the largest single source of funding for higher education retreats sharply from its historic role of investment in higher education, one or more of the above dimensions of educational opportunity are invariably sacrificed.

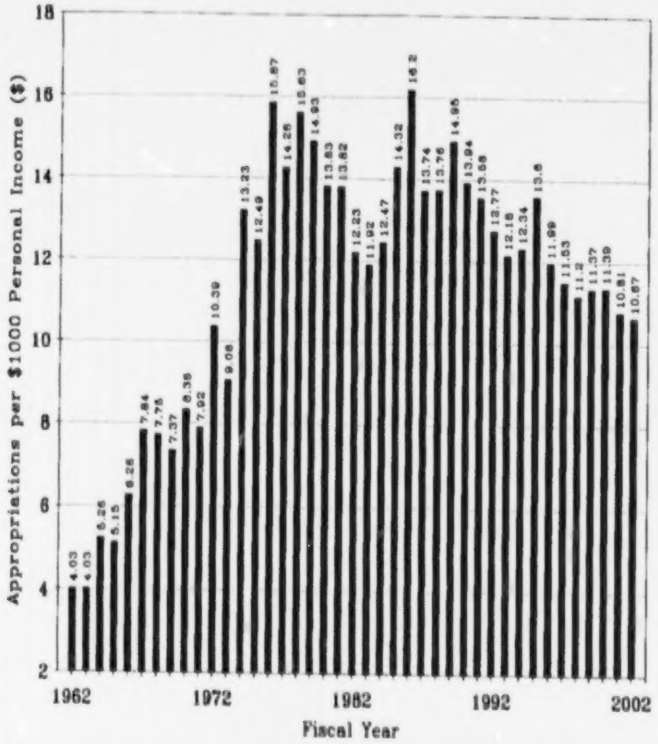
State and Local Appropriations for Higher Education per $1000 of Personal Income, FY2001

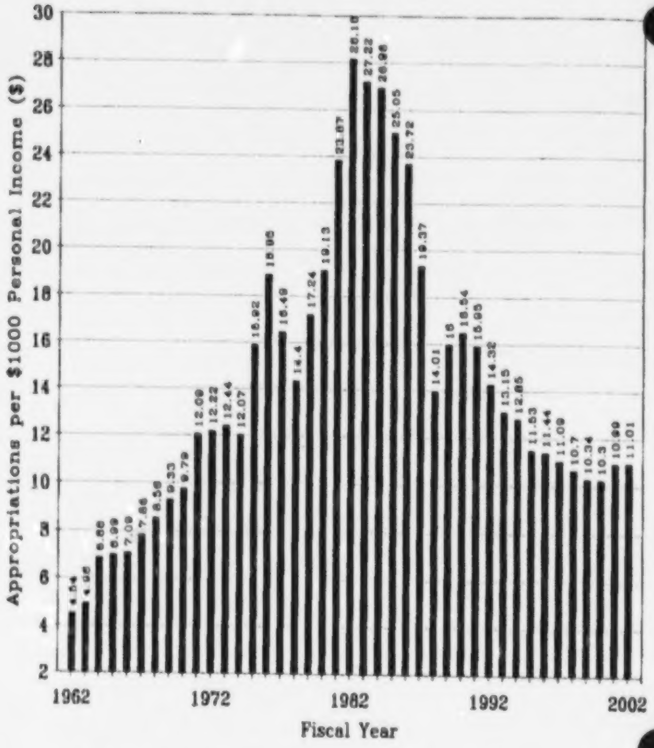


Most notably the consequences of state retreat from higher education investment fall on those most dependent on public policy for assistance in securing educational opportunity.

The under-represented populations in higher education, in particular those from low family income backgrounds and minority groups, represent growing shares of the U.S. population. They are all characterized by high financial need to attend college.

The retreat in state investment in higher education leads directly to higher tuition and fee charges to students as institutions seek to recover lost state funding. Few states and public institutions protect these growing population shares from the ravages of declining state investment.


Alabama Appropriations of State Tax Funds for Higher Education per $1000 of Personal Income FY1962 to FY2002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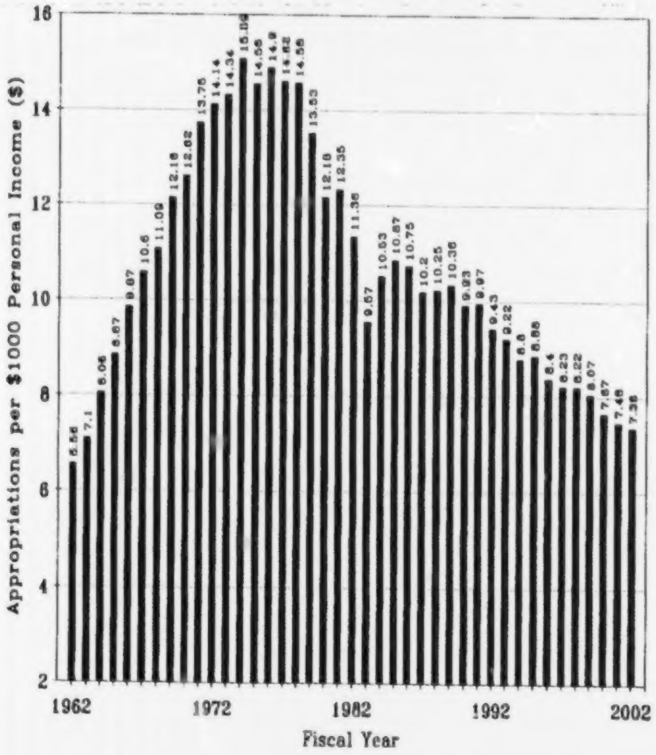
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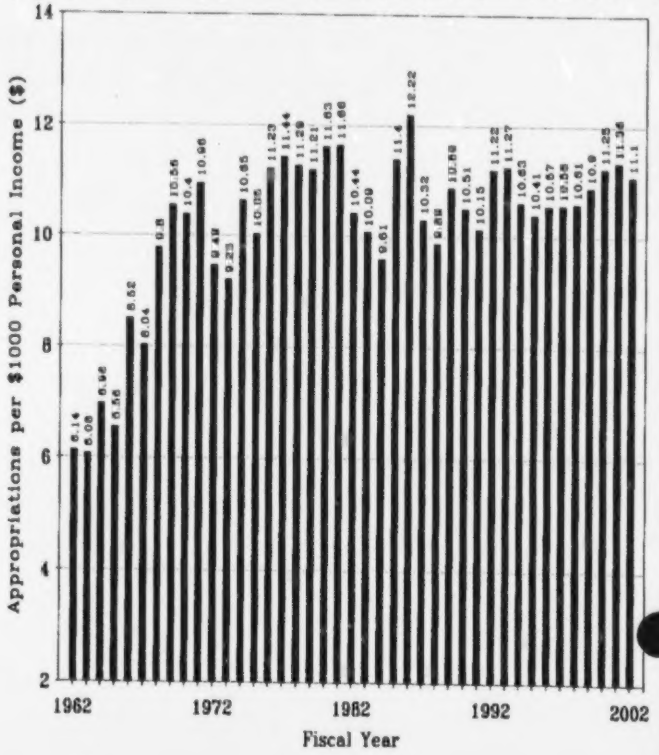
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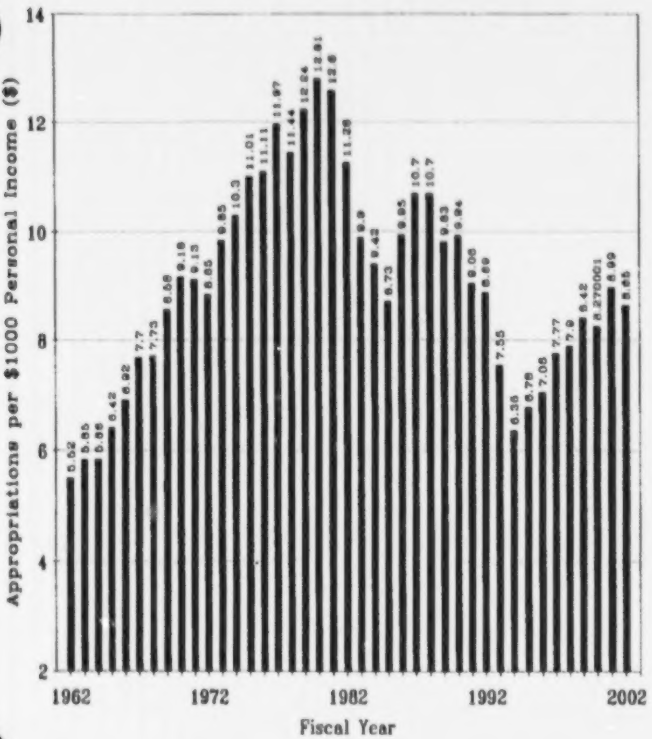
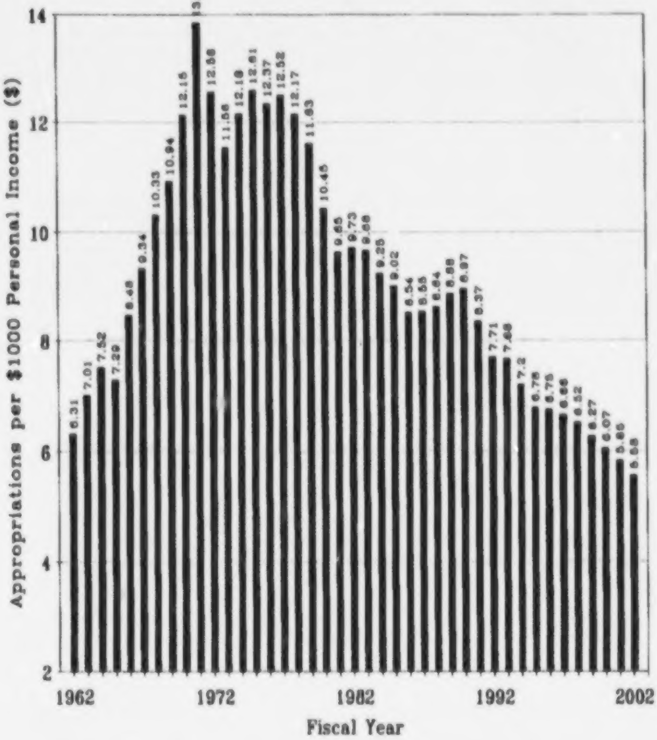
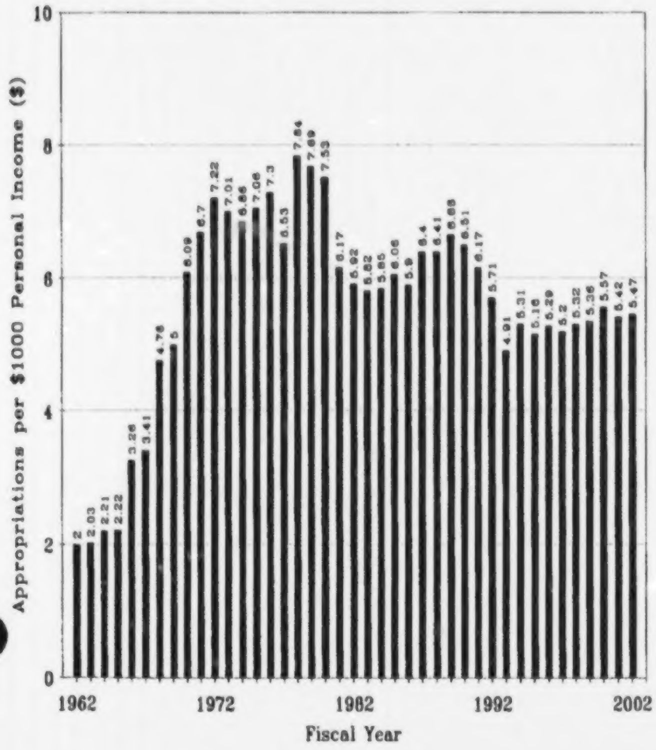


California Appropriations of State Tax Funds for Higher Education per $1000 of Personal Income FY1962 to FY2002



Colorado Appropriations of State Tax Funds for Higher Education per $1000 of Personal Income FY1962 to FY2002



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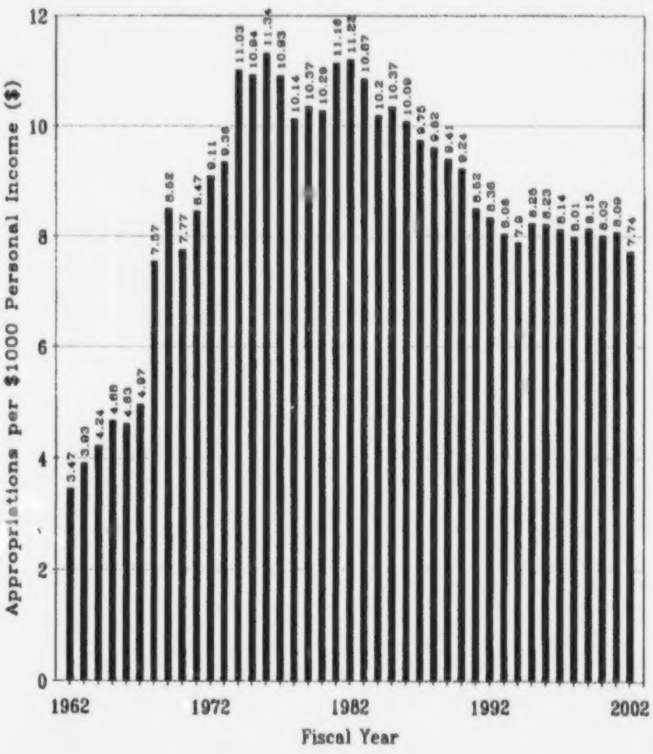

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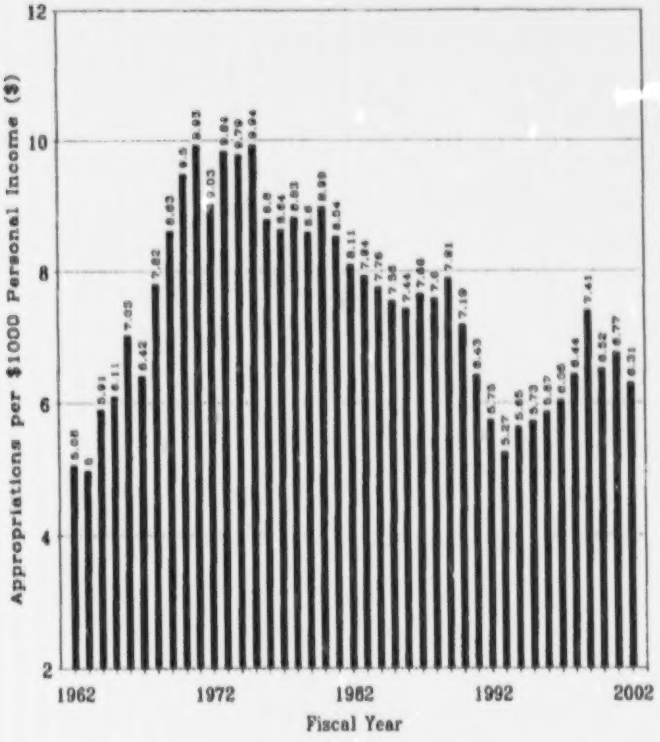
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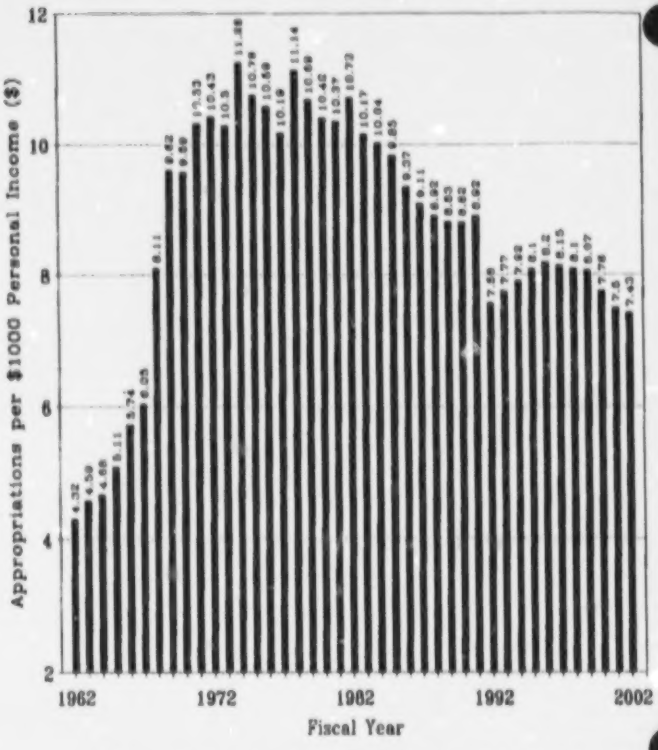
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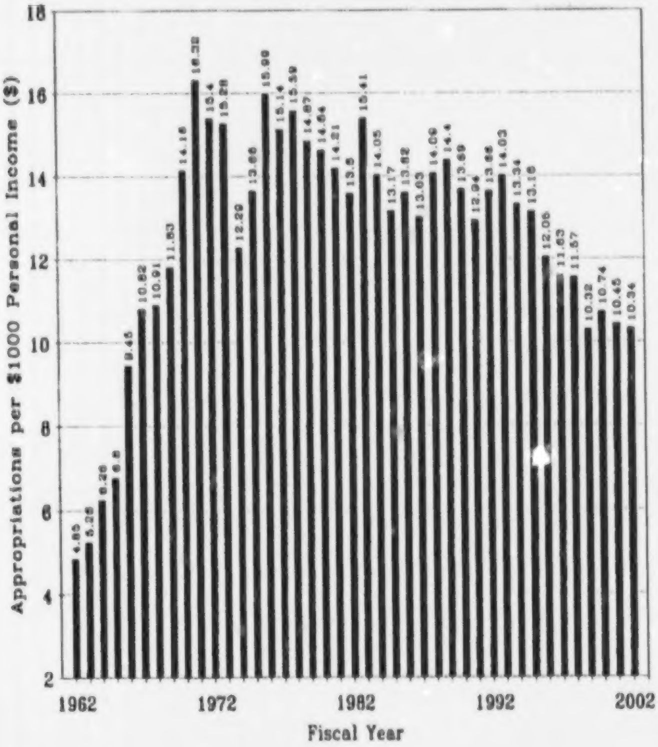
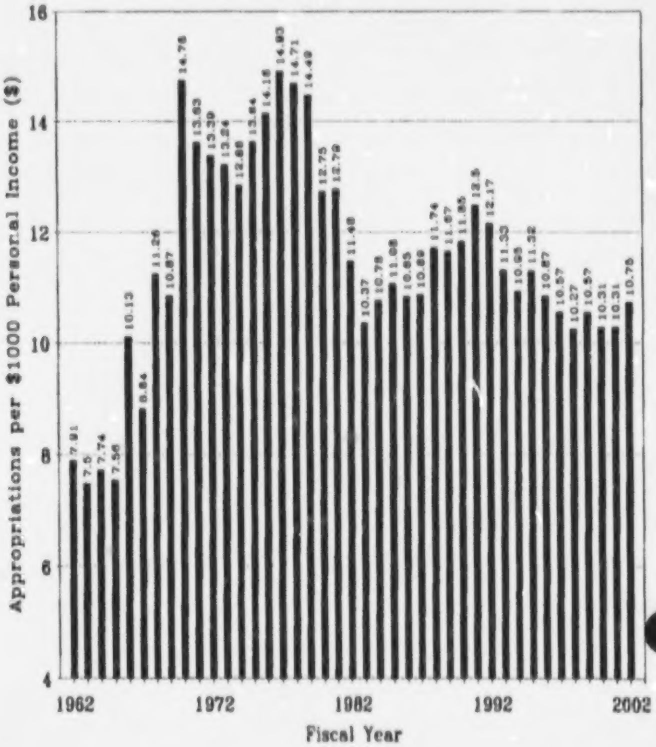

Hawaii Appropriations of State Tax Funds for Higher Education per $1000 of Personal Income FY1962 to FY2002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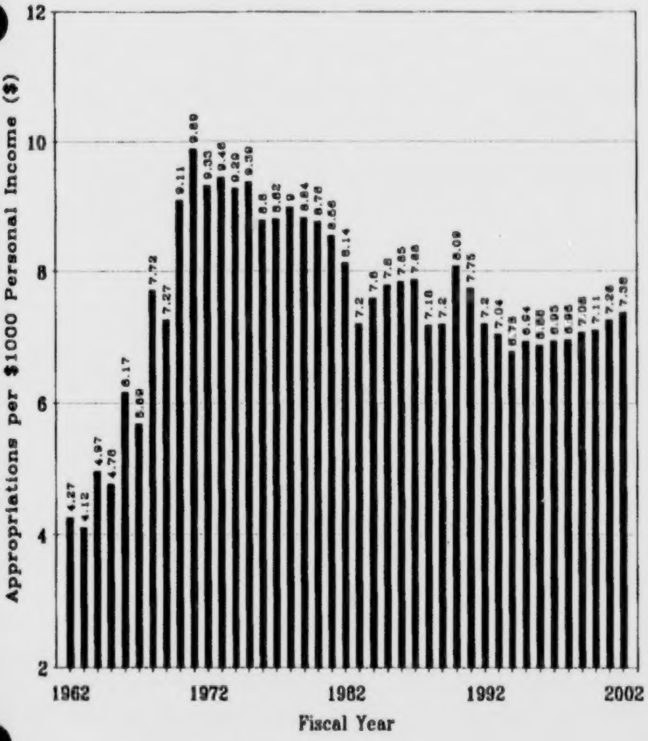
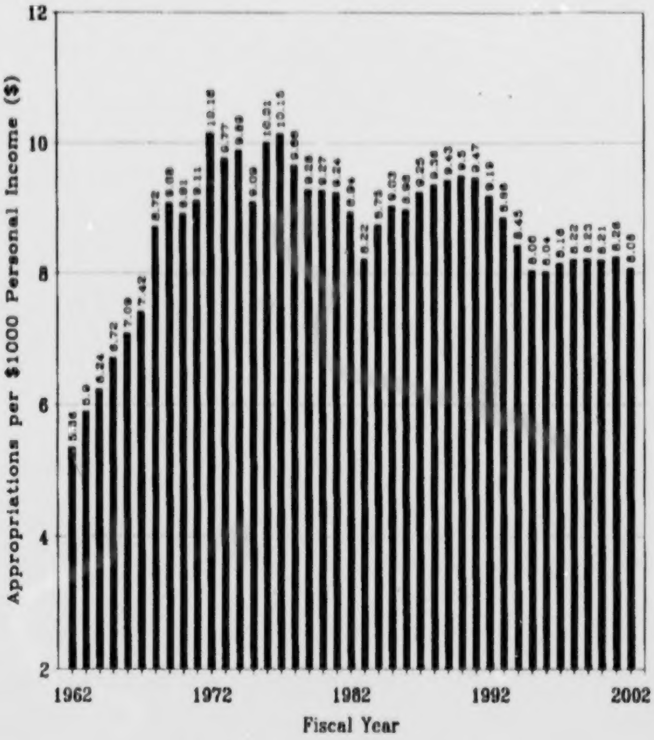
Illinois Appropriations of State Tax Funds for Higher Education per $1000 of Personal Income FY1962 to FY2002



Indiana Appropriations of State Tax Funds for Higher Education per $1000 of Personal Income FY1962 to FY2002



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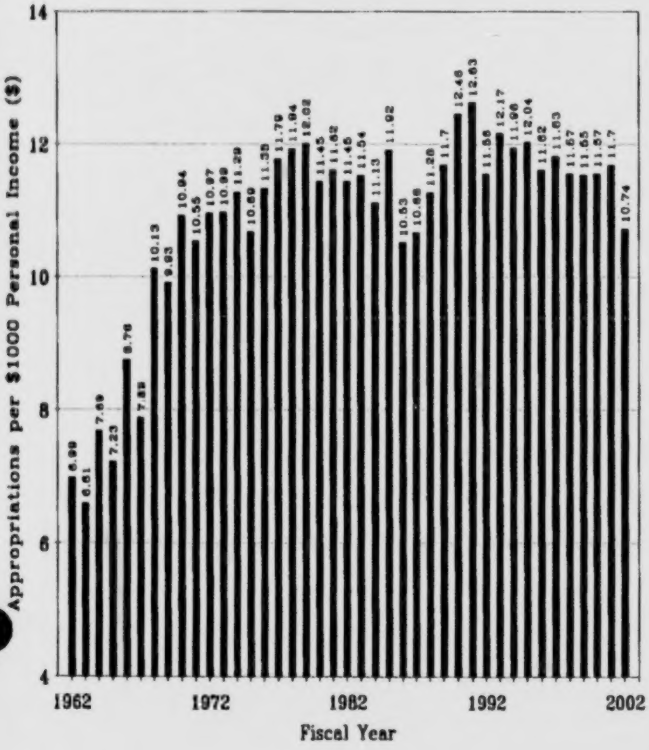
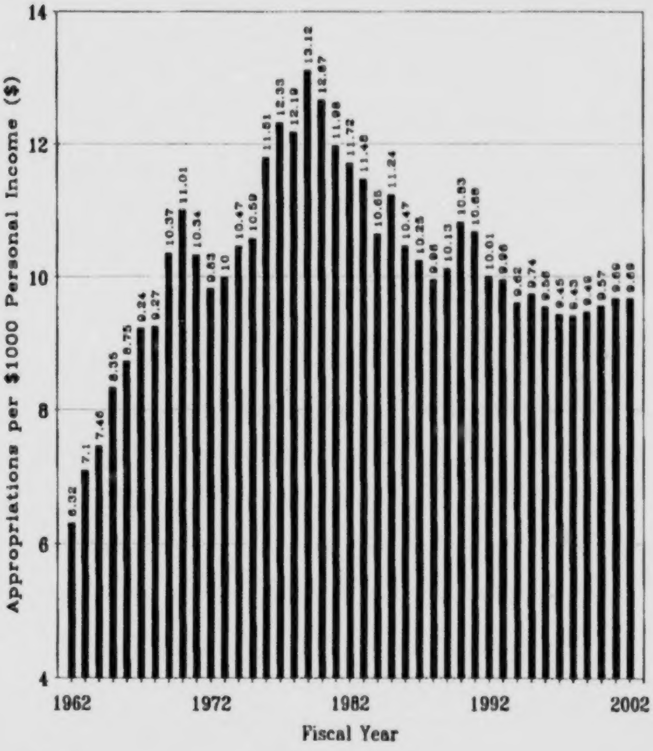
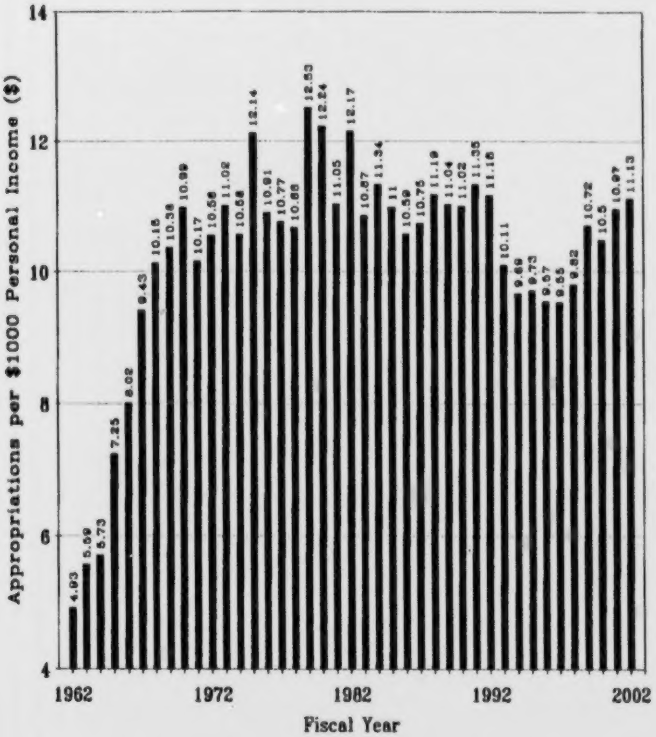


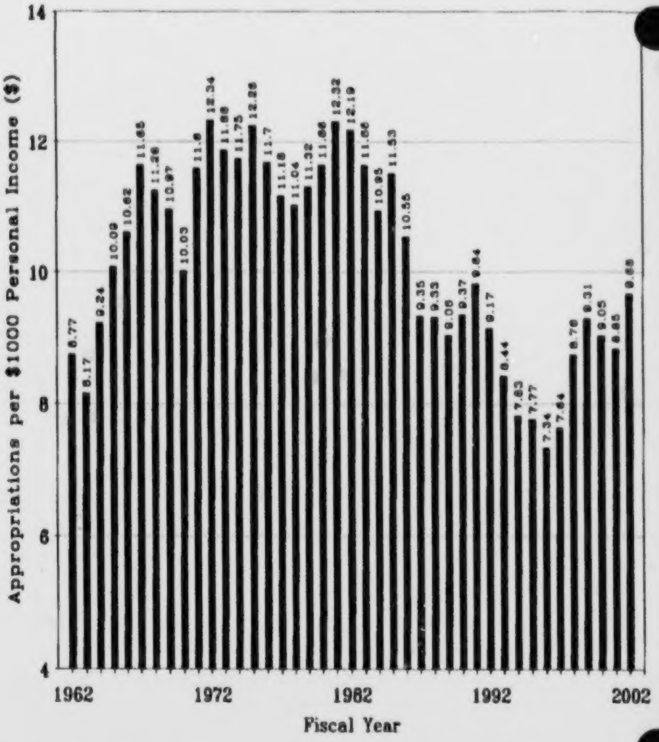
Kansas Appropriations of State Tax Funds for Higher Education per $1000 of Personal Income FY1962 to FY2002



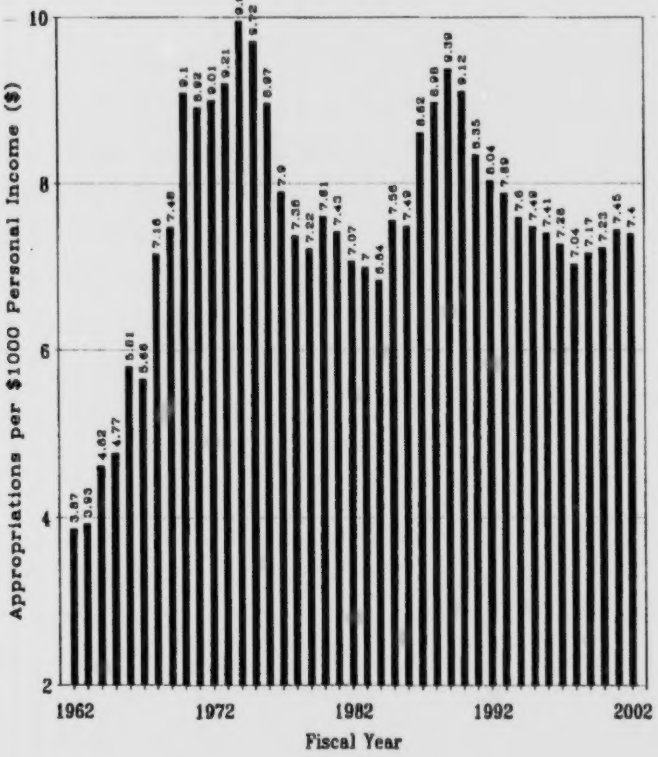
Kentucky Appropriations of State Tax Funds for Higher Education per $1000 of Personal Income FY1962 to FY2002



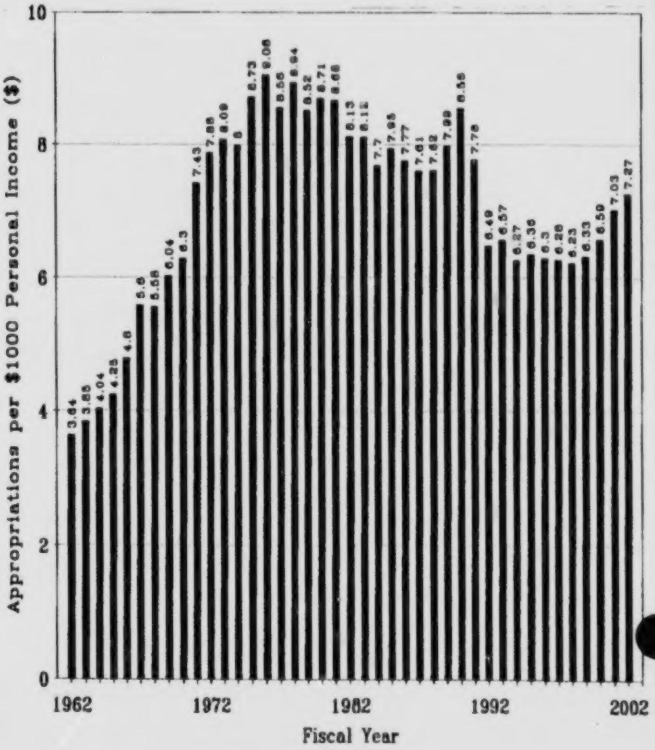
Louisiana Appropriations of State Tax Funds for Higher Education per $1000 of Personal Income FY1962 to FY2002



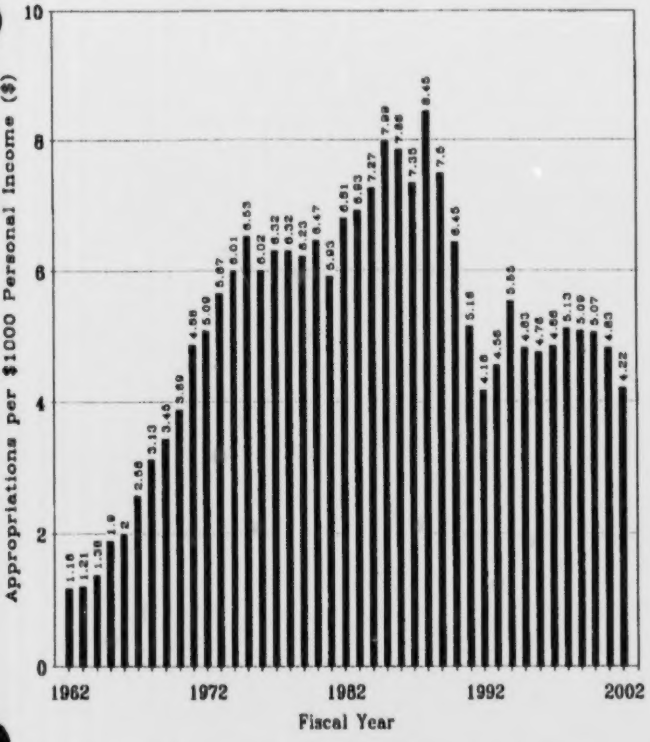
Maine Appropriations of State Tax Funds for Higher Education per $1000 of Personal Income FY1962 to FY2002



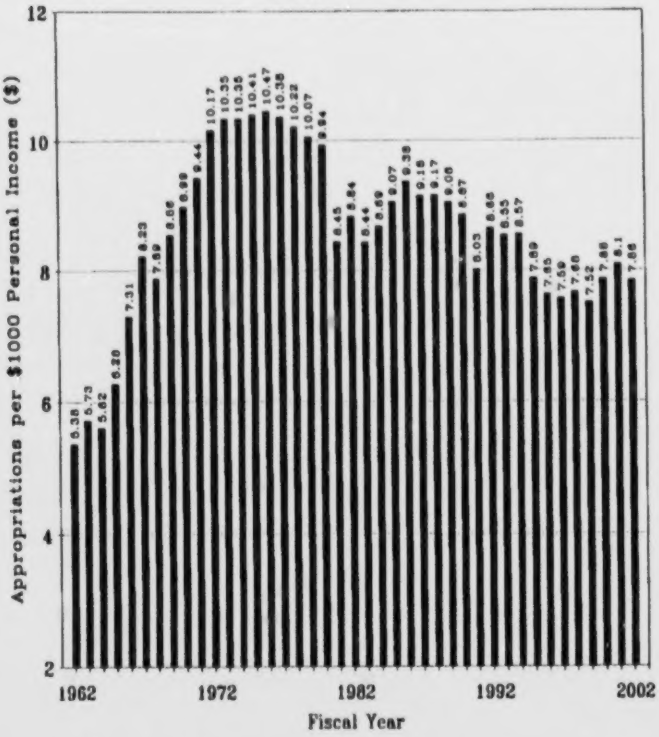
Maryland Appropriations of State Tax Funds for Higher Education per $1000 of Personal Income FY1962 to FY2002



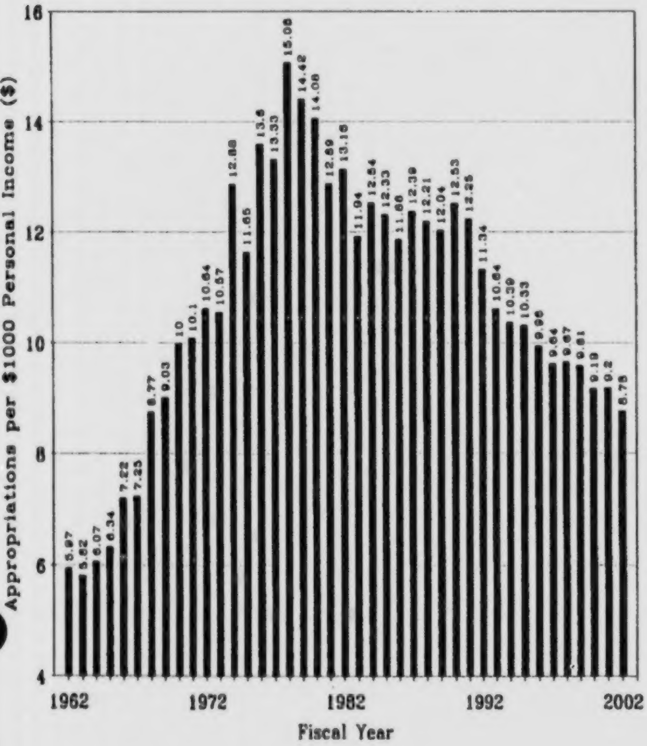
Massachusetts Appropriations of State Tax Funds for Higher Education per $1000 of Personal Income
FY1962 to FY2002



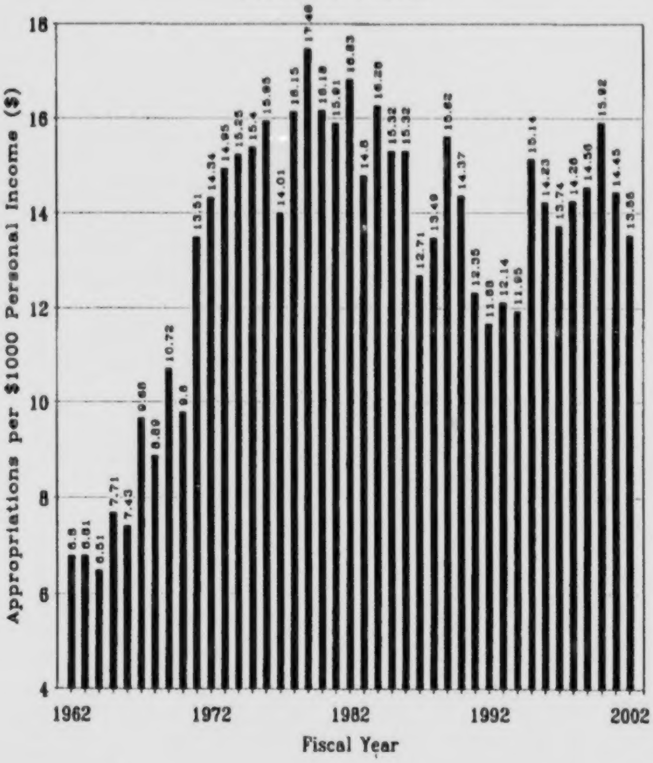
Michigan Appropriations of State Tax Funds for Higher Education per $1000 of Personal Income
FY1962 to FY2002

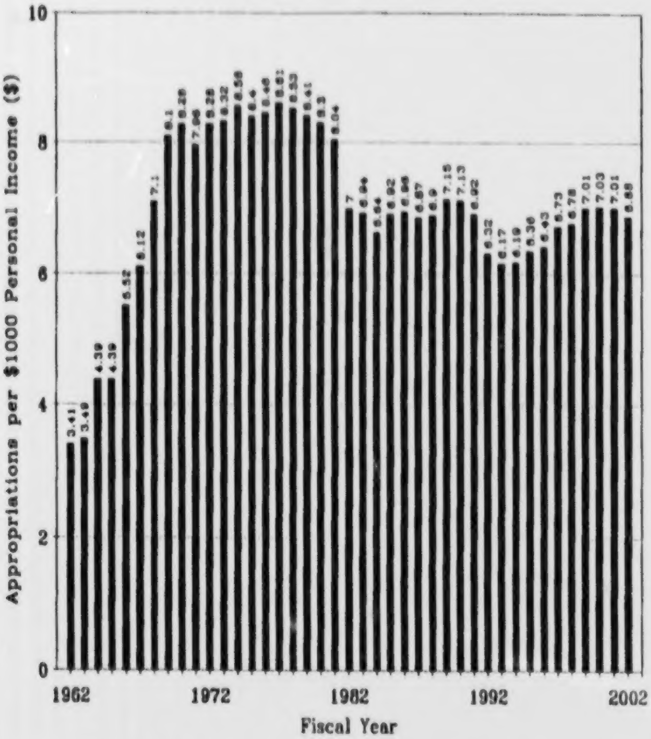


Minnesota Appropriations of State Tax Funds for Higher Education per $1000 of Personal Income
FY1962 to FY2002

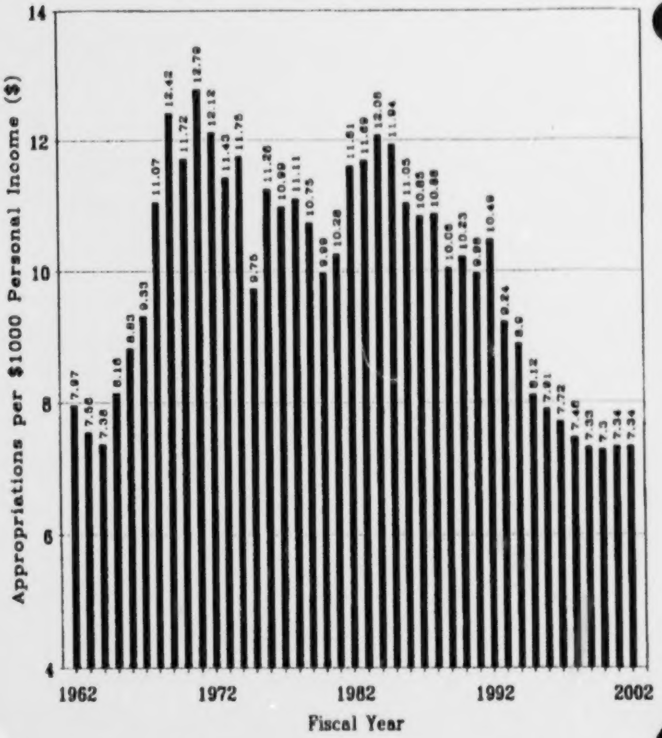


Mississippi Appropriations of State Tax Funds for Higher Education per $1000 of Personal Income
FY1962 to FY2002





Missouri Appropriations of State Tax Funds for Higher Education per $1000 of Personal Income FY1962 to FY2002



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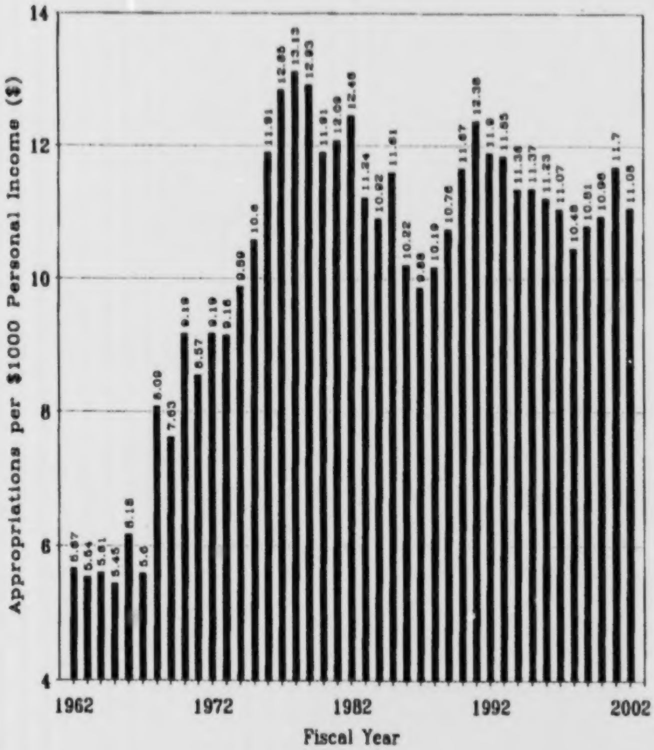

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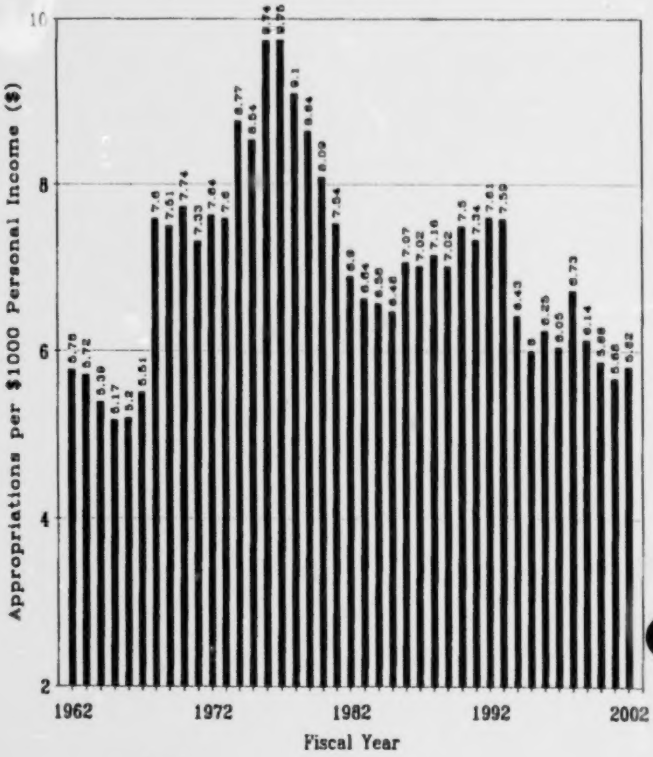
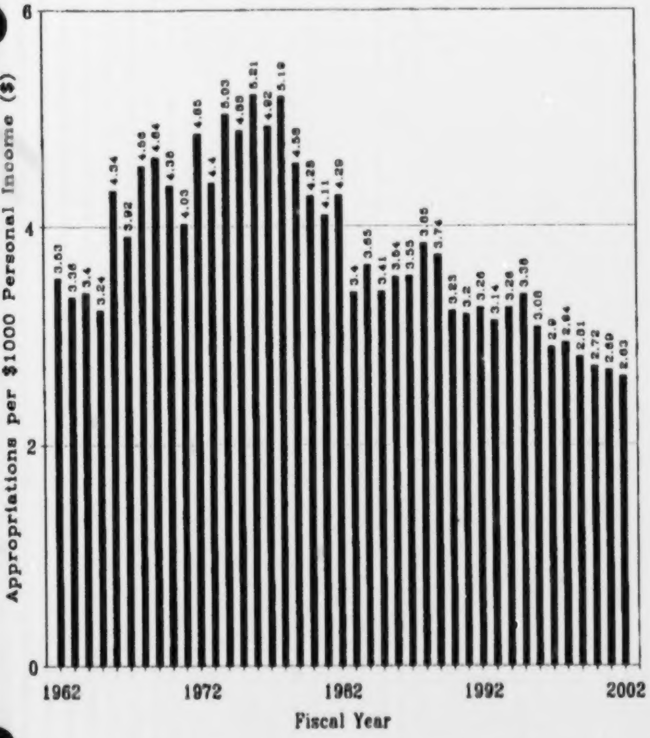
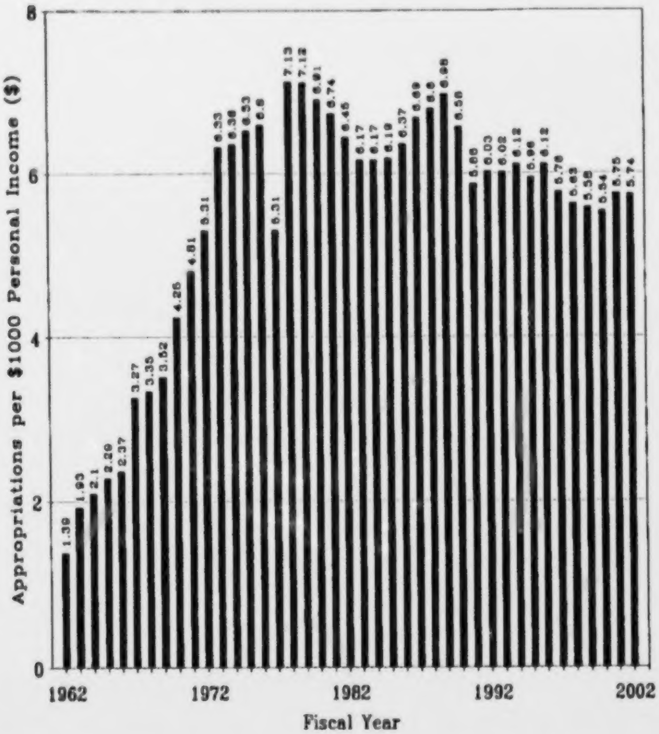


Nevada Appropriations of State Tax Funds for Higher Education per $1000 of Personal Income FY1962 to FY2002

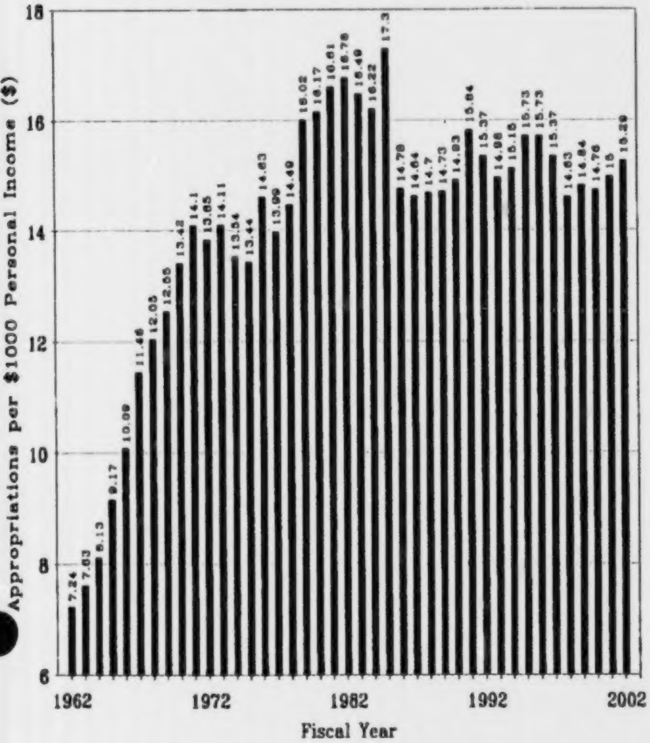
New Hampshire Appropriations of State Tax Funds for Higher Education per $1000 of Personal Income FY1962 to FY2002



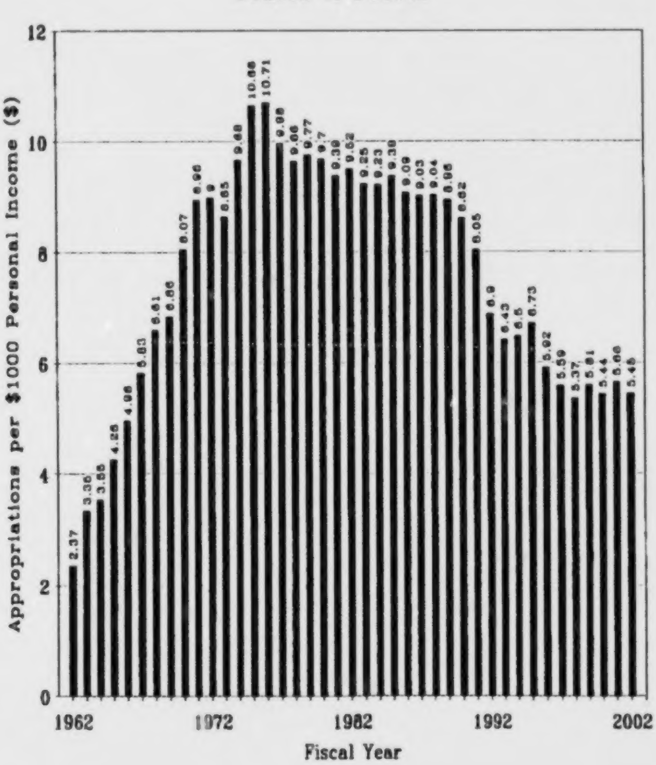
New Jersey Appropriations of State Tax Funds for Higher Education per $1000 of Personal Income FY1962 to FY2002



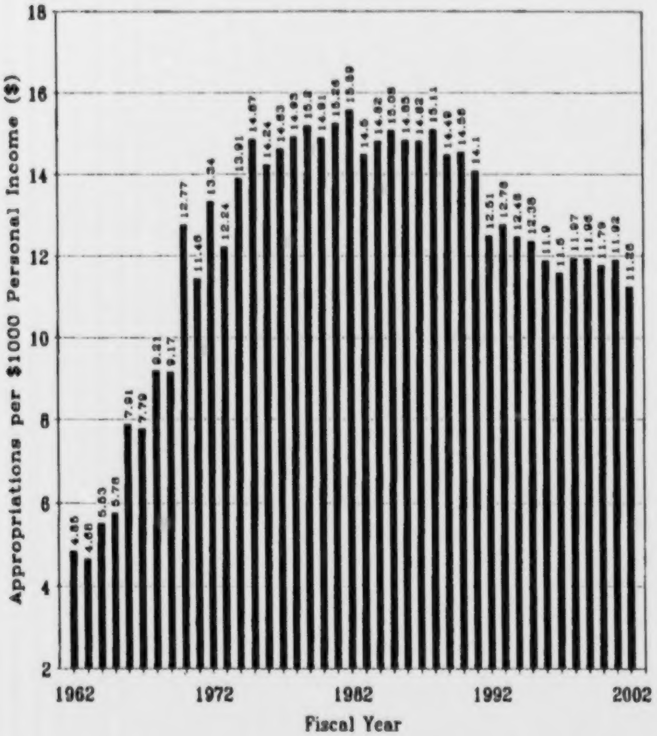
New Mexico Appropriations of State Tax Funds for Higher Education per $1000 of Personal Income FY1962 to FY2002



New York Appropriations of State Tax Funds for Higher Education per $1000 of Personal Income FY1962 to FY2002



North Carolina Appropriations of State Tax Funds for
Higher Education per $1000 of Personal Income
FY1962 to FY2002



North Dakota Appropriations of State Tax Funds for
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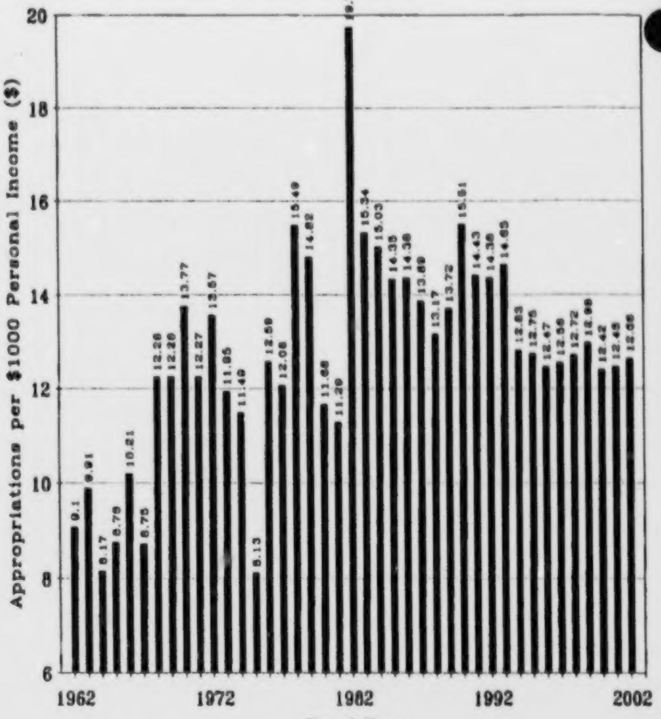
FY1962 to FY2002



Ohio Appropriations of State Tax Funds for
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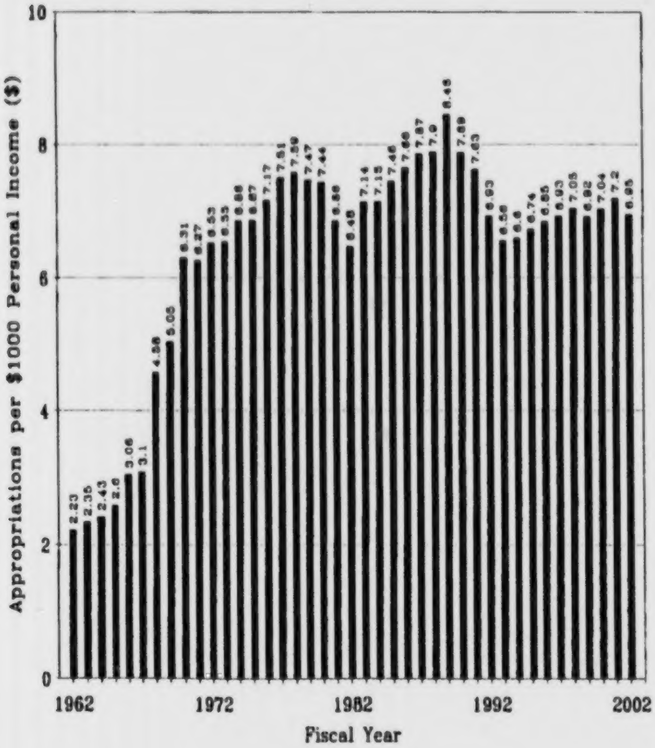
FY1962 to FY2002



Oklahoma Appropriations of State Tax Funds for
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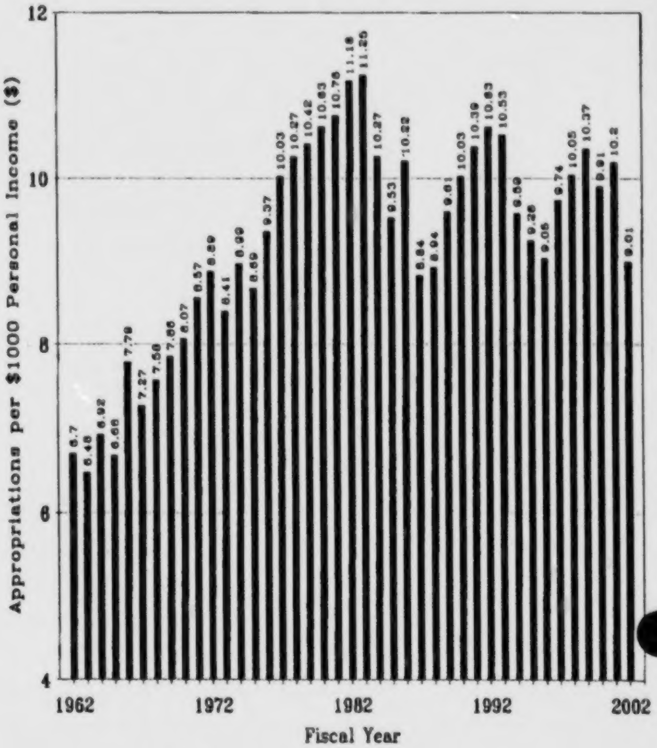
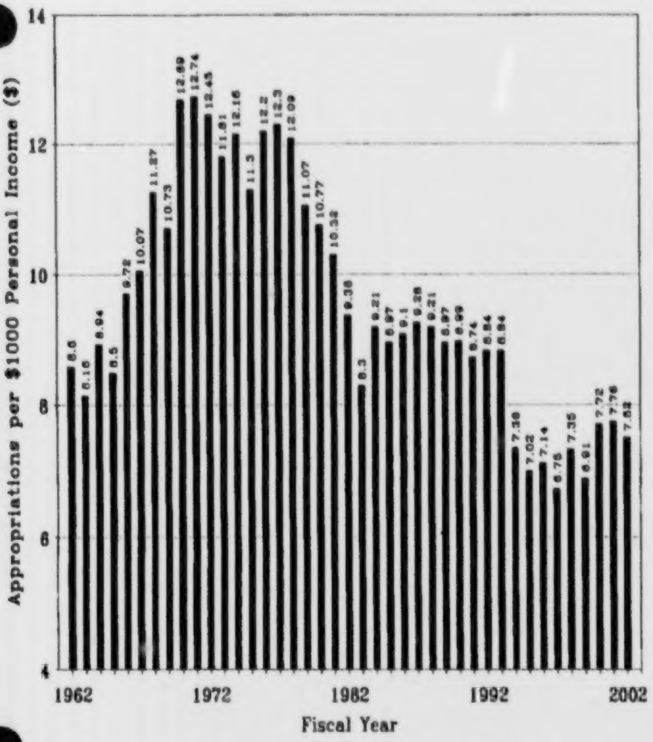
FY1962 to FY2002

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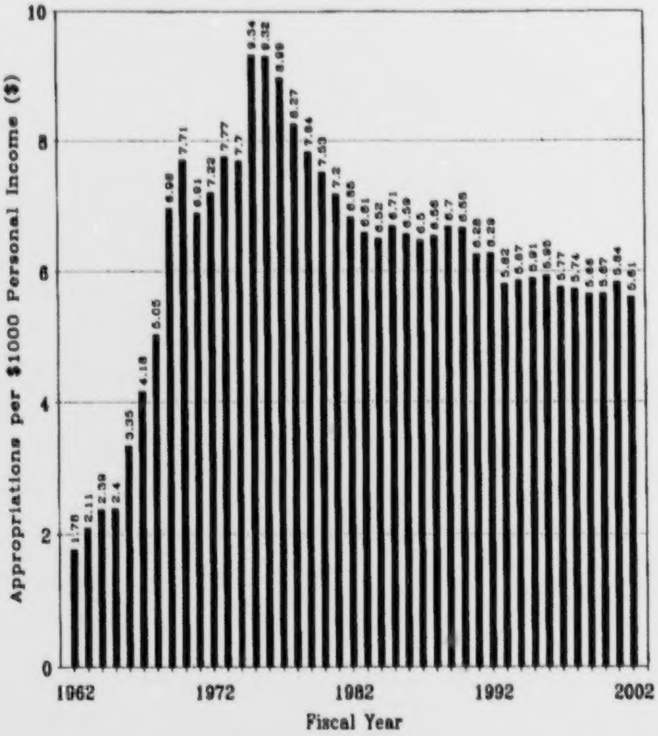
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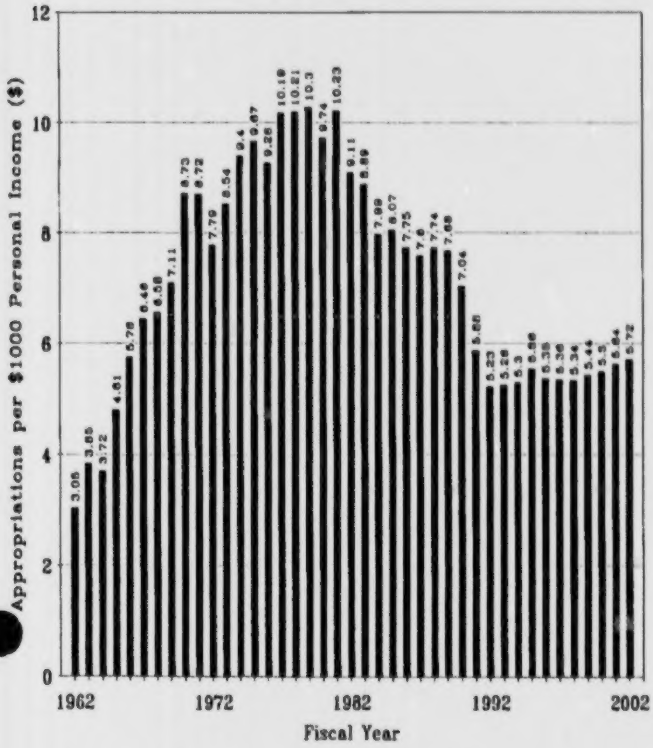
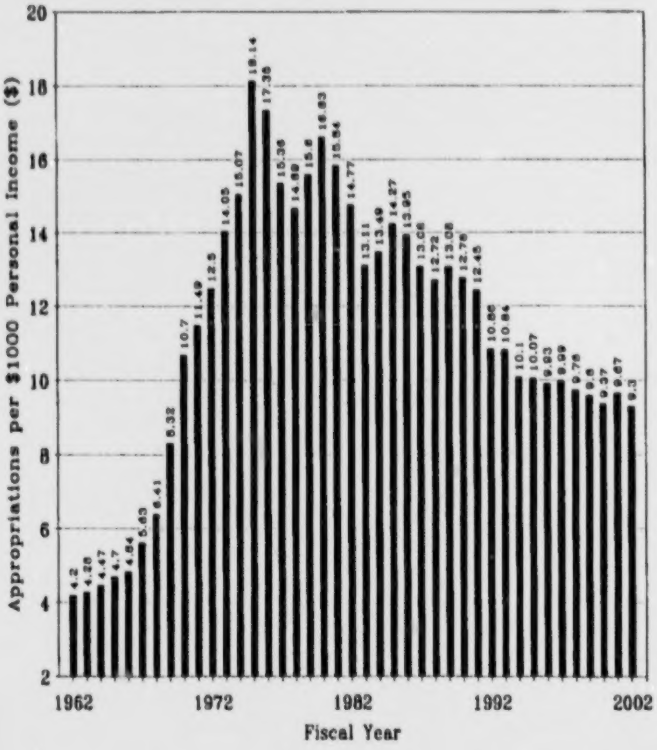

Rhode Island Appropriations of State Tax Funds for Higher Education per $1000 of Personal Income FY1962 to FY2002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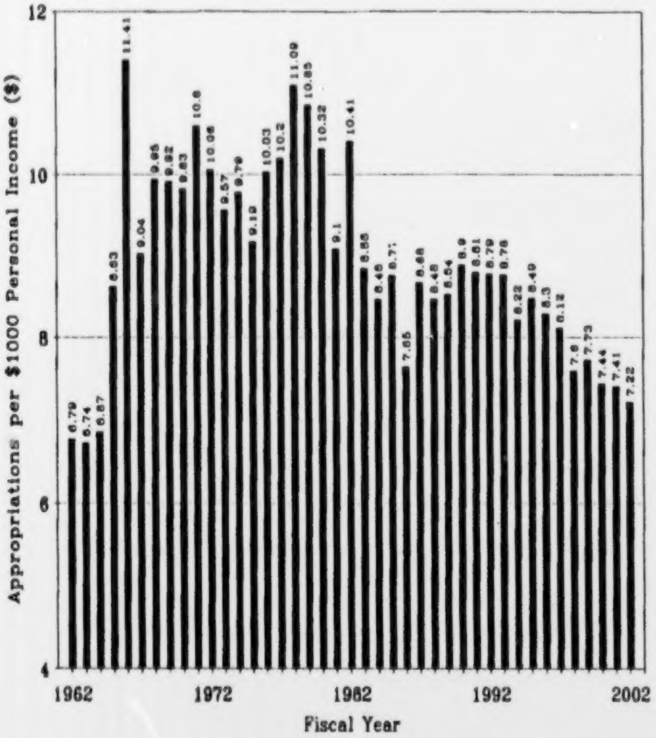

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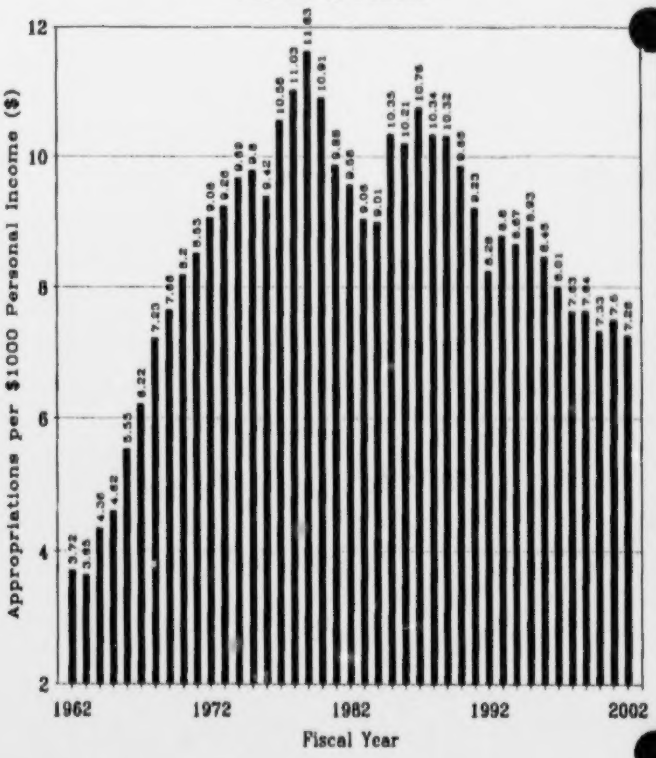
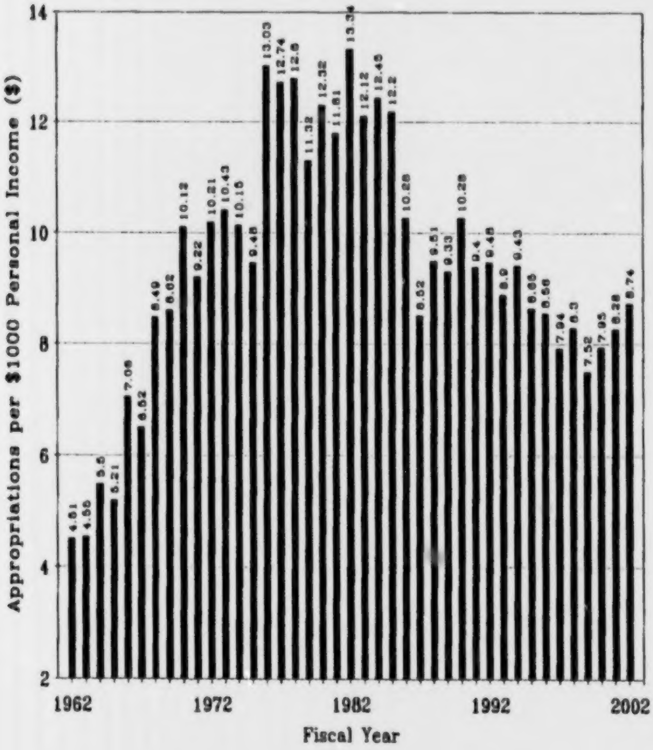
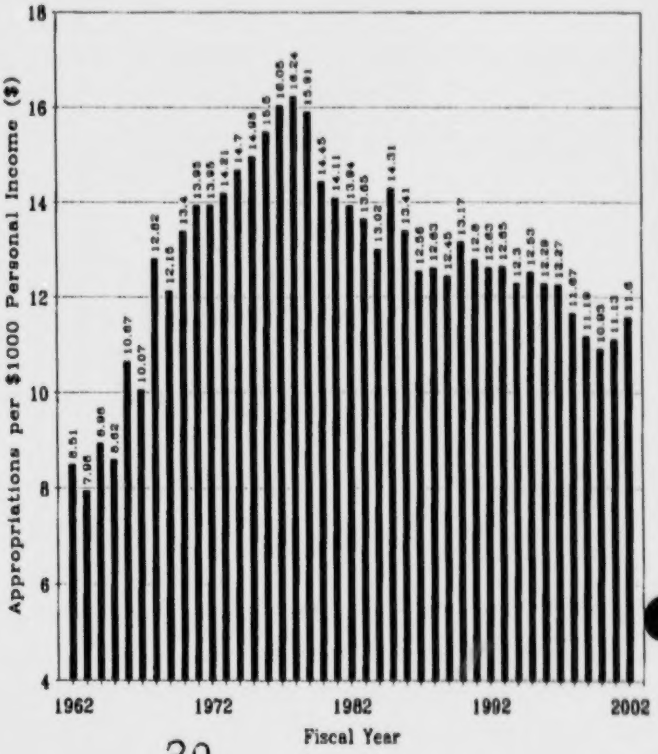


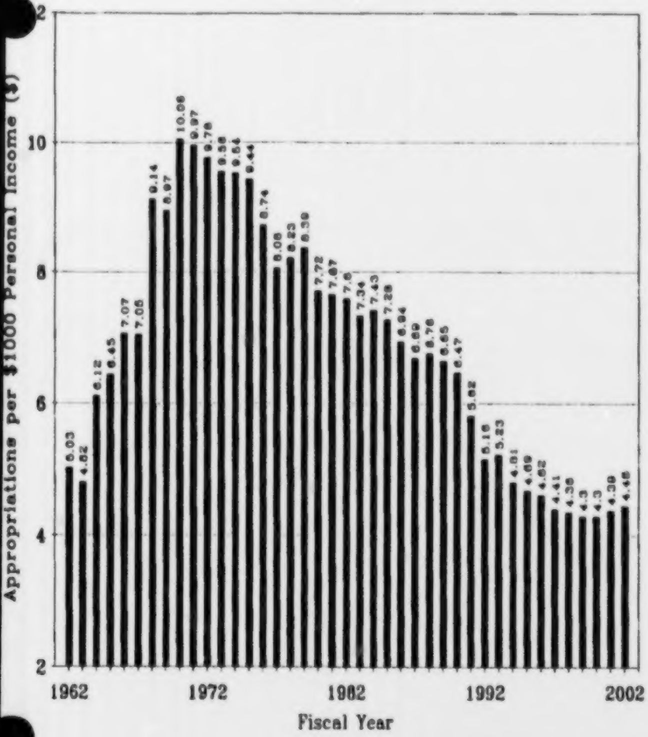
Tennessee Appropriations of State Tax Funds for Higher Education per $1000 of Personal Income FY1962 to FY2002



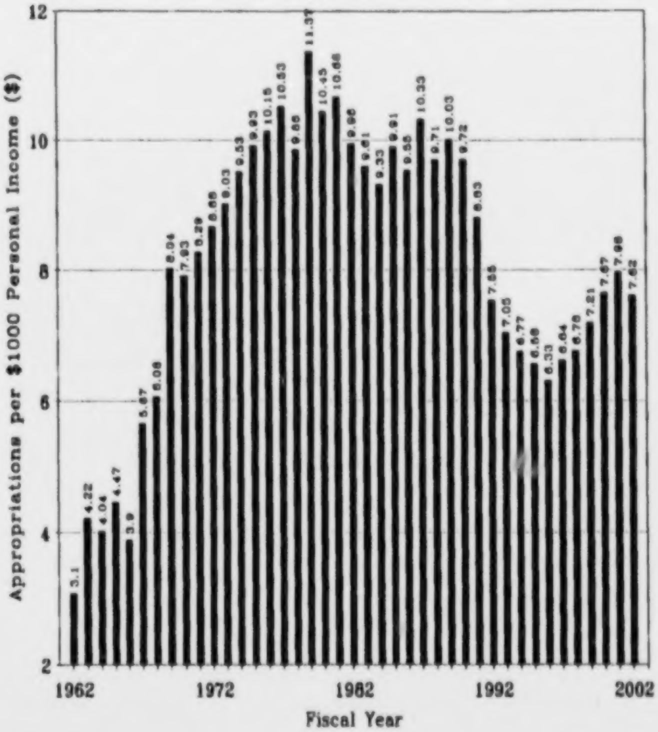
Texas Appropriations of State Tax Funds for Higher Education per $1000 of Personal Income FY1962 to FY2002



Utah Appropriations of State Tax Funds for Higher Education per $1000 of Personal Income FY1962 to FY2002



Vermont Appropriations of State Tax Funds for Higher Education per $1000 of Personal Income FY1962 to FY2002



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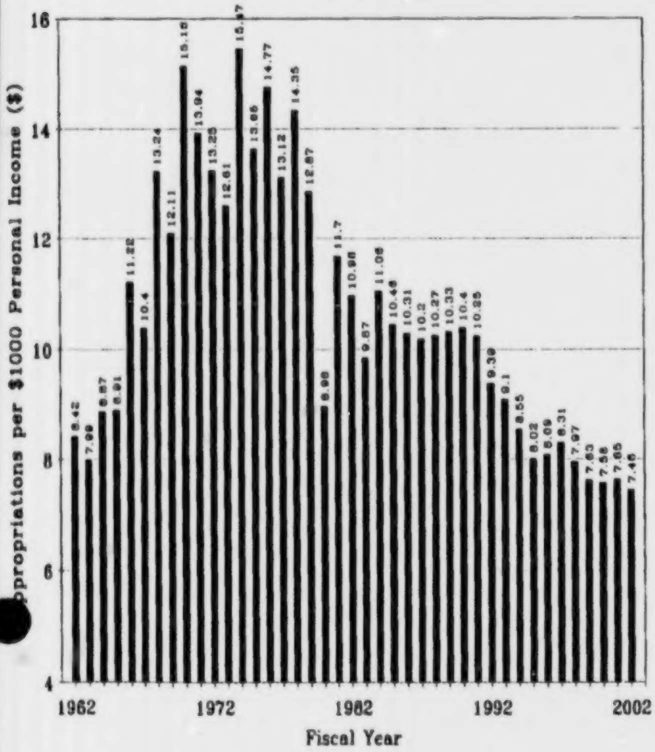
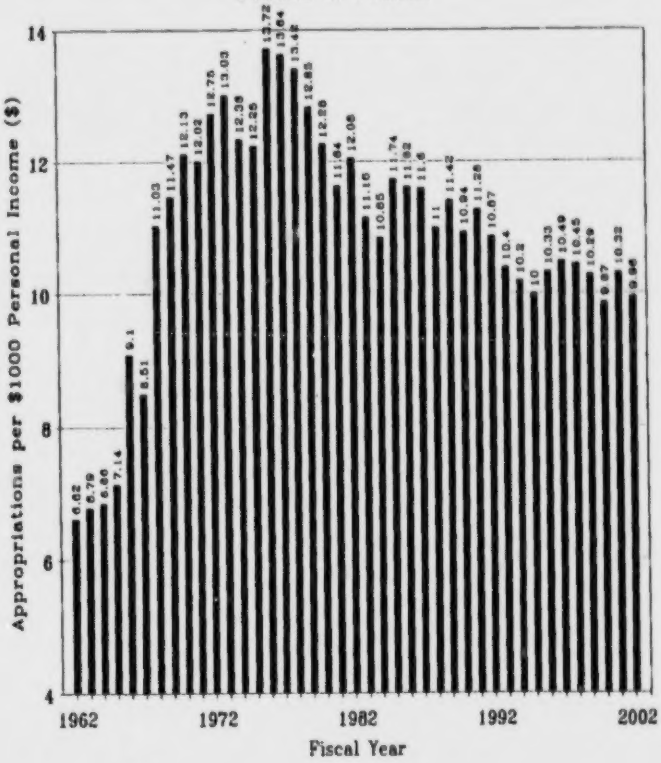
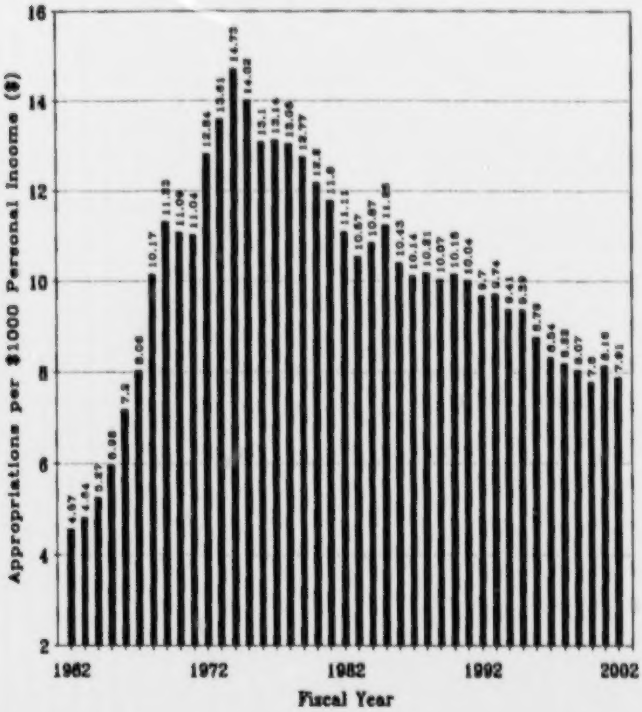


Washington Appropriations of State Tax Funds for Higher Education per $1000 of Personal Income FY1962 to FY2002



West Virginia Appropriations of State Tax Funds for Higher Education per $1000 of Personal Income FY1962 to FY2002

Wisconsin Appropriations of State Tax Funds for Higher Education per $1000 of Personal Income FY1962 to FY2002



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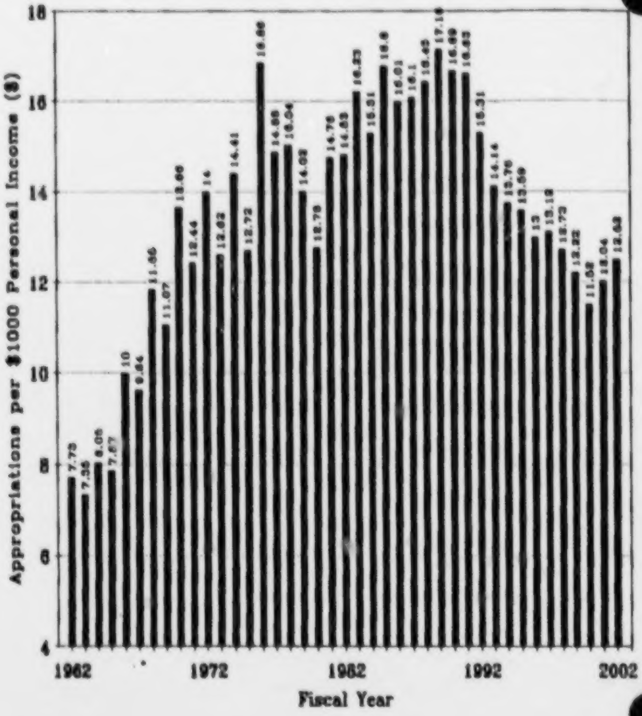

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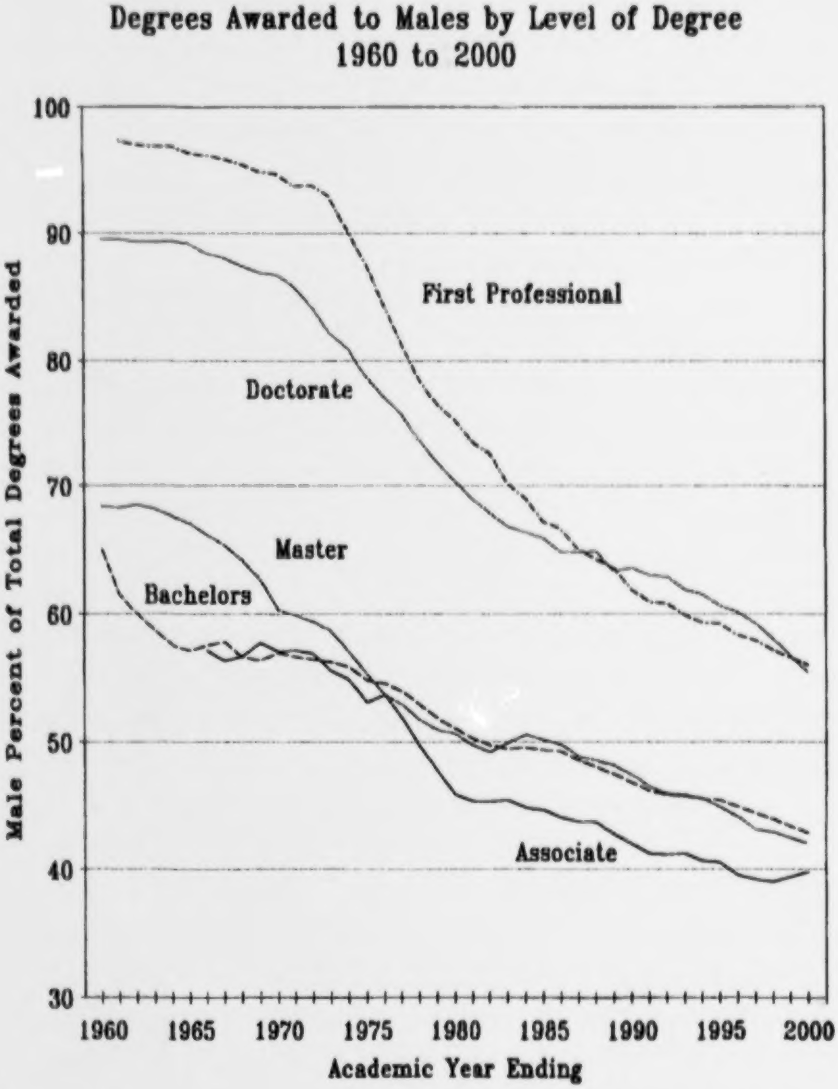
Number 116 **www.postsecondary.org** **February 2002**

Earned Degrees Conferred by Gender 1870 to 2000


Degrees Awarded to Males by Level of Degree
1960 to 2000

The growing gender imbalance in education is nowhere more evident than it is at the end of the education pipeline, at college graduation. Here the educational progress of women, and lack of progress by men, is fully magnified and most apparent.

- In 1975 a majority of the college degrees awarded went to men. This was true at the associate, bachelor's, master's, first professional and doctorate levels.
- By 2000 a majority of the associate, bachelor's and master's degrees were awarded to women.
- At the first professional and doctorate degree levels, the wide gap in 1975 had mostly closed and within a decade a majority of these degrees as well will be awarded to women.

There are two important stories here. The first story concerns the progress of women, and the second story is the absence of progress by men. During the last twenty-five years, between 1975 and 2000:

- The number of associate degrees increased by 204,762. Women earned 83.5 percent of this increase, and men earned 16.5 percent.
- The number of bachelor's degrees increased by 314,942. Women earned 91.9 percent of this increase, and men earned 8.1 percent.
- The number of master's degrees increased by 164,606. Women earned 81.6 percent of this increase, and men earned 18.4 percent.
- The number of first professional degrees increased by 23,575. Women earned 121.3 percent of this increase. The number of first professional degrees awarded to women increased by 28,586, while the number earned by men actually

declined by 5,011.

- The number of doctorate degrees increased by 10,725. Women earned 116.7 percent of this increase. The number of doctorates awarded to women increased by 12,514, while the number awarded to men declined by 1,789.

Graduation, at the end of the education pipeline, magnifies far smaller differences in the educational progress of boys and girls, and men and women, that have been occurring for decades prior to graduation. Each of these small differences between the genders cumulate into these disparities.

The record told in the data goes back to 1870 when the first national survey of bachelors degrees conferred by colleges and universities found 7,993 awarded to men and 1,378 awarded to women. In the most recent survey in this series, for the 1999-2000 academic year, 1,237,875 bachelors degrees were awarded: 530,367 to men and 707,508 to women.

The proportion of bachelor's degrees awarded to men has declined from 85.3 percent in 1870, to 42.8 percent by 2000--the smallest proportion ever. Or, said another way: The proportion of bachelor's degrees awarded to women has increased from 14.7 percent in 1870 to 57.2 percent by 2000, the largest proportion ever.

Here we review these gender data on degrees awarded by higher education from many perspectives. The story told by the data describe an extraordinarily broad and long-term shift in the proportion of higher education earned degrees from men to women.

By itself these data are simply interesting and suggest a fairly narrow set of implications. However, even casual consideration will lead one to see meaning and implications that dwarf whatever meaning higher education chooses to find for itself. In a world increasingly dependent on the education and training provided by colleges and universities, women are preparing for that world and men are not. We are heading into a world where the interests and values of women will gradually come to displace the interests and values of men. It will be a different kind of world as a result.

The Data

Mainly the data used in this modest analysis are the gender breakdowns of the data on earned degrees conferred by degree-granting colleges and universities. These data have been collected by the predecessors to the National Center for Education Statistics (NCES) since 1870. Up until 1920 these surveys were conducted at ten-year intervals. Since then they have been conducted annually.

Most of these survey results have been compiled and reported in the annual *Digest of Education Statistics*. Some of the recent annual reports with more detail are available in .pdf format on the NCES website at:

http://nces.ed.gov

The most recent report in this series is available at:

http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2002156

Additionally, for reference purposes we cite data on the gender distribution of live births and the population. The gender data on live births are collected and reported annually by the National Center for Health Statistics in *Vital Statistics of the United States*. These data are also reported in the *Statistic Abstract of the United States*.

The age and gender of the population of the United States is estimated and reported by the Census Bureau. These

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Mission Statement

This research letter is founded on two fundamental beliefs. First, sound public social policy requires accurate, current, independent, and focused information on the human condition. Second, education is essential to the development of human potential and resources for both private and public benefit. Therefore, the purpose of this research letter is to inform those who formulate, fund, and administer public policy and programs about the condition of and influences that affect postsecondary education opportunity for all Americans.

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data are available on the Census Bureau's web site at:
http://eire.census.gov/popest/archives/national/nation2/intfile2-1.txt
They are also published in the *Statistical Abstract*.

Population Gender Distribution

Every year in the United States, for every 100 girl babies that are born, 105 boy babies are born. This is a demographic constant. This ratio has held for every year since at least 1960.

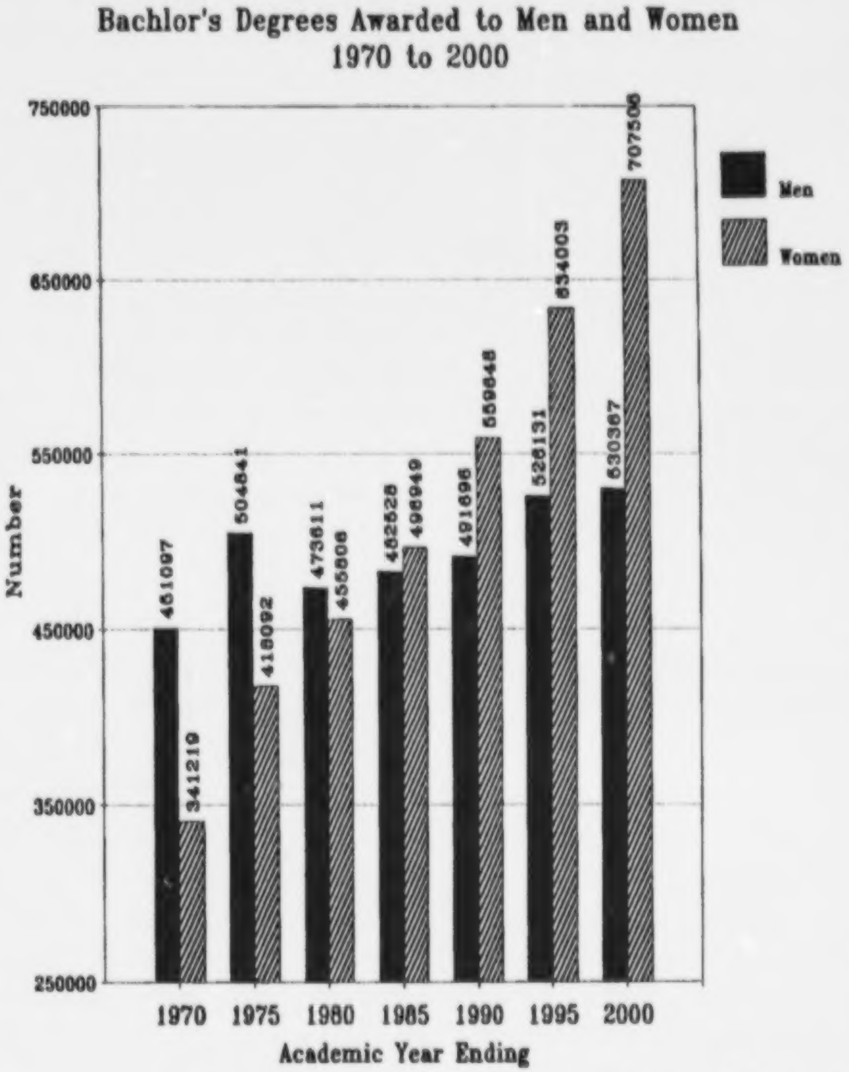
Boys remain a majority of the resident population of the United States up through about age 25. In the primary years of undergraduate education, between the ages of 18 and 24 years, males constitute 51.1 percent of the resident population of the U.S.

As of November 1, 2000, the proportion of the population by age groups that are male was as follows:

Under 5 years	51.1%
5 to 9 years	51.2%
10 to 14 years	51.2%
15 to 19 years	51.4%
20 to 24 years	51.0%
25 to 29 years	49.8%
30 to 34 years	49.4%
35 to 39 years	49.7%
40 to 44 years	49.6%
45 to 49 years	49.2%
50 to 54 years	48.7%
55 to 59 years	48.0%
60 to 64 years	47.3%
65 to 69 years	46.0%
70 to 74 years	44.4%
75 to 79 years	41.9%
80 to 84 years	38.2%
85 to 89 years	32.9%
90 to 94 years	27.3%
95 to 99 years	22.5%
100 years and over	17.6%

College Degrees by Gender

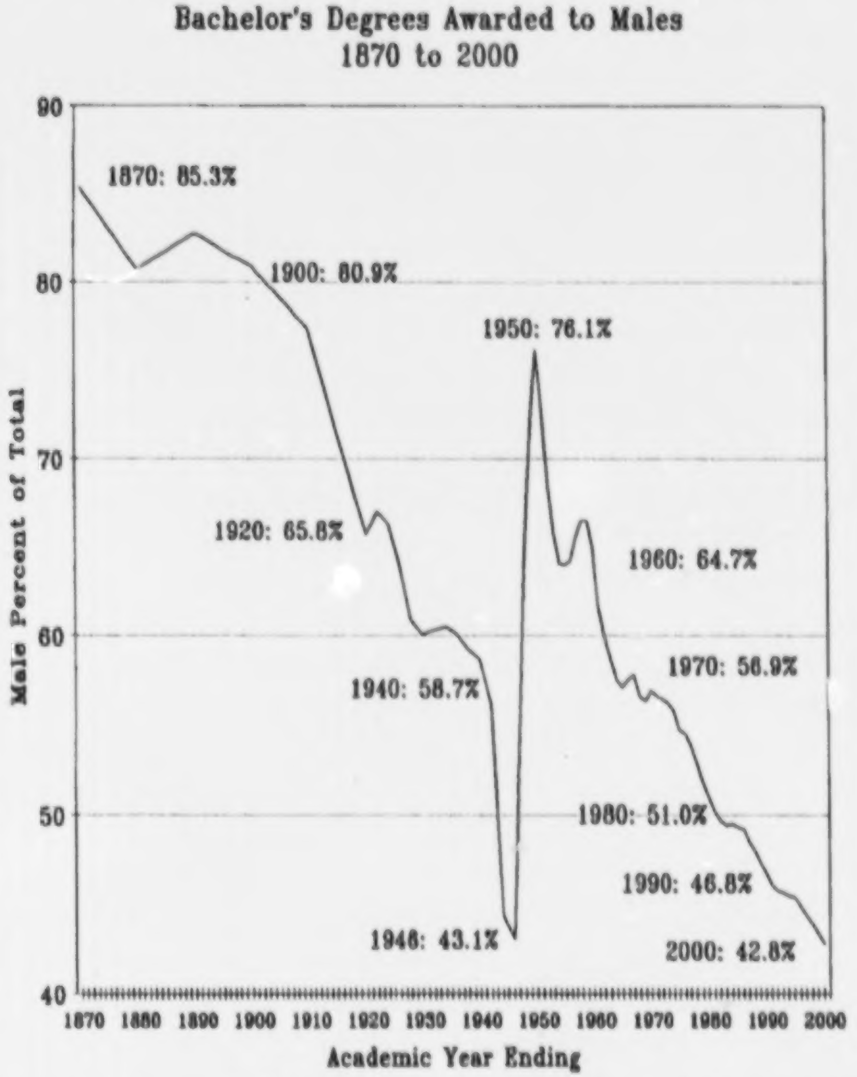
The chart on this page shows the number of bachelor's degrees awarded to men and women at five year intervals between 1970 and 2000. This chart illustrates clearly what has been happening to the gender distribution of college degrees awarded over the last three decades.



- Between 1970 and 2000, the number of bachelor's degrees awarded to males increased by 79,290, or by 17.5 percent.
- During the same period the number of bachelor's degrees awarded to women increased by 366,289, or by 107 percent.

The redistribution of bachelor's degrees by gender is the direct result of the growth in women earning degrees, and the concurrent lack of growth in men earning the same degrees. Of the total increase of 445,559 in bachelors degrees awarded between 1970 and 2000, 82 percent of the increase was earned by women and 18 percent was earned by men.

Similar patterns exist at the associate and master's degree levels. While there has been very modest growth in the number of men earning these degrees, the number earned by women has doubled or tripled.



Somewhat different patterns are evident in the first professional and doctorate degree data. Here the numbers of degrees awarded to men have actually declined while the numbers of these degrees awarded to women have increased many times.

- The number of first professional degrees awarded to men peaked at between 52,000 and 53,000 between 1976 and 1982. Since 1982 the numbers awarded to men have almost steadily declined to 43,945 in 2000, the lowest number since 1972.
- Meanwhile, the number of women earning first professional degrees has increased from 1,841 in 1970, to 17,415 in 1980, 27,027 by 1990 and 35,546 by 2000.

At the doctorate level, a similar pattern holds.

- The number of doctorates awarded to men reached its zenith at 28,571 in 1973, then declined to a nadir at 21,700 in 1985, and then resumed growth to 27,146 by 1997. In 2000 the number of doctorates awarded to men was 25,028.
- The number of doctorates awarded to women was 3,976 in 1970, 9,672 by 1980, 13,970 by 1990 and 19,780 by 2000. The 2000 number was the largest on record.

Gender Distribution of Degrees

Since the numbers of men and women of college age are roughly equal in the population, it is useful to look at the distribution of higher education degrees by gender. We do so here both over time by degree level, race/ethnicity, institutional control, and state. This portrayal gives an important sense of the depth and breadth of the gains by women and lack of gains by men in higher educational attainment.

Degree level. The chart on page 1 of this issue of OPPORTUNITY shows the proportion of each of the five higher education degrees that were earned by men over the last four decades. The trends are clear and strong: a declining share of higher education degrees are earned by men. Or, a growing share of higher education degrees are being earned by women.

- The proportion of associate degrees earned by men declined from 57.1 percent in 1966 to 39.6 percent by 2000. 1978 was the first year when fewer associate degrees were awarded to men than to women.
- The proportion of bachelor's degrees earned by men declined from 56.9 percent in 1970 to 42.8 percent by 2000. 1982 was the first year when fewer bachelor's degrees were awarded to men than to women.
- The share of master's degrees earned by men declined from 60.3 percent in 1970 to 42.0 percent by 2000. 1981 was the first year when fewer master's degrees were awarded to men than to women, except during World War II.
- The proportion of first professional degrees earned by men declined from 94.7 percent in 1970 to 55.3 percent by 2000.

- The proportion of doctorates earned by men declined from 86.7 percent in 1970 to 55.9 percent by 2000.

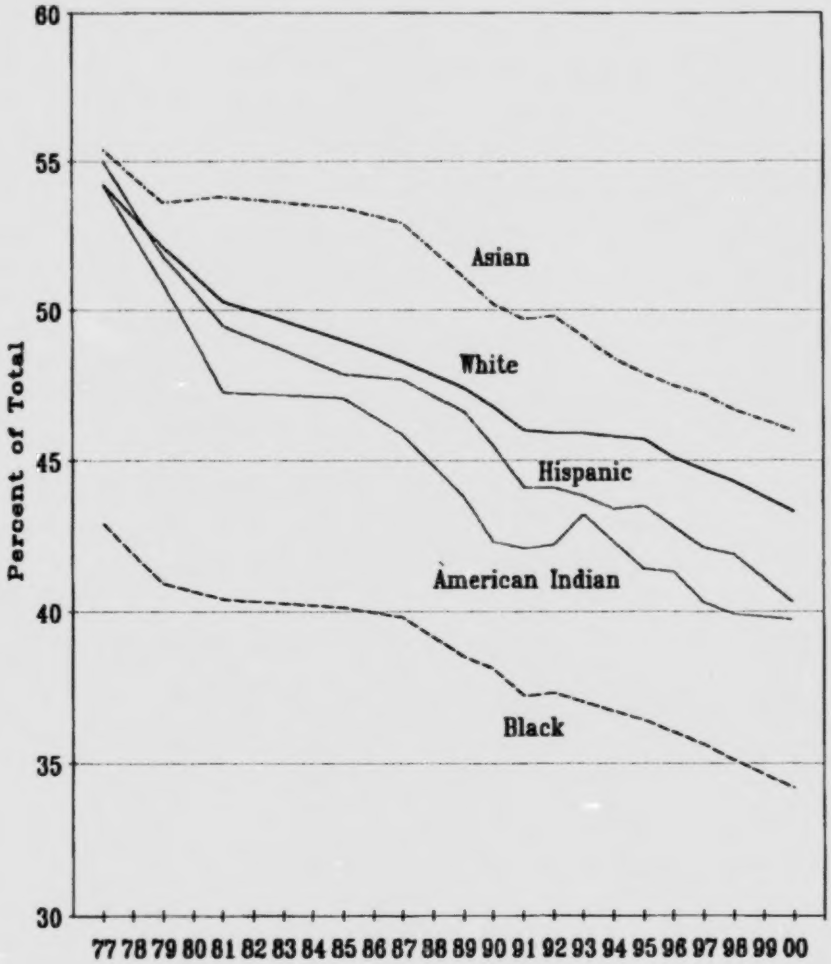
Bachelor's degrees. The chart on page 4 shows the proportion of bachelor's degrees awarded to men between 1870 and 2000.

This chart in particular tells a story mainly about the higher educational attainment gains of women, especially between 1900 and about 1980. During this period, the expansion of K-12 education through universal high school education created an extraordinary demand for school teachers. Women who wanted to teach school children enrolled in normal schools and later state universities to get the education and certification required for their teaching careers.

This chart also describes the disruption to the gains of women and men caused by World War II. The three decades between 1940 and 1970 capture this disruption. Then around 1970, the long-term trends up to 1940 resumed and have continued through 2000.

By 2000 the proportion of bachelor's degrees awarded to men had declined to 42.8 percent of the total. This was the smallest proportion on record, smaller even than the 43.1 percent reached in 1946 as World War II veterans were beginning their college careers under the Servicemen's Readjustment Act of 1944 (the GI bill).

Bachelor's Degrees Awarded to Males by Race/Ethnicity 1977 to 2000

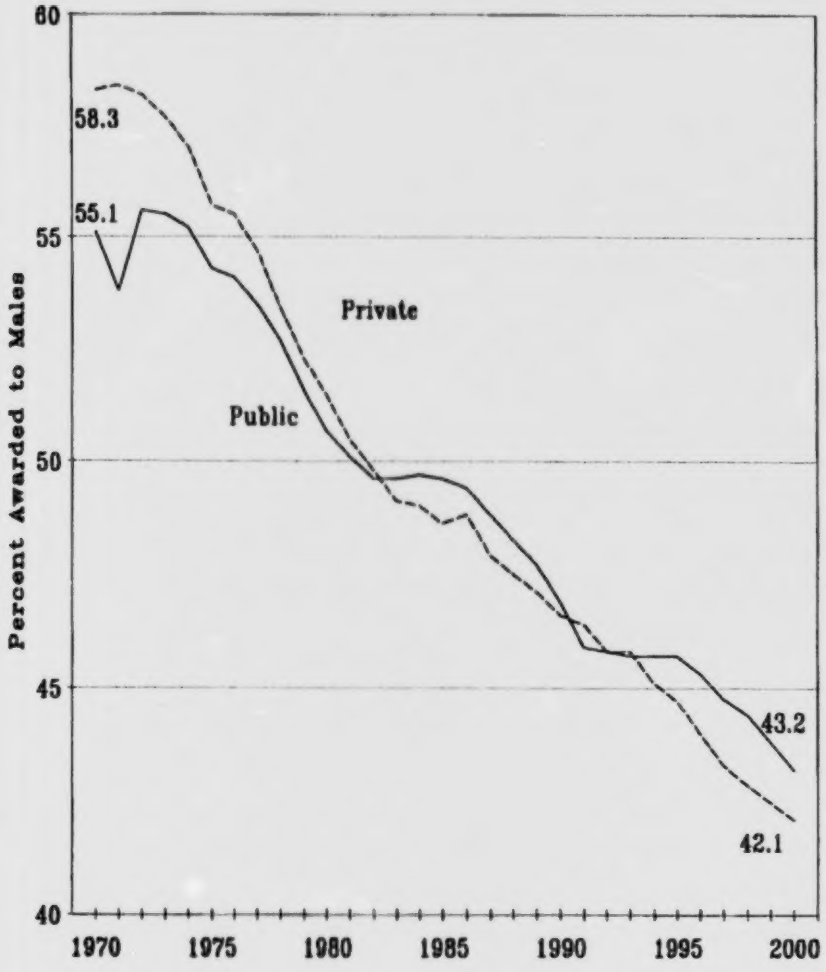


Race/ethnicity. The chart on this page shows the proportion of bachelor's degrees awarded to men since 1977 by race/ethnicity. Similar stories for each group are told by these data. For each racial/ethnic group of the population, the proportion of bachelor's degrees awarded to men declined significantly between 1977 and 2000:

- For whites, the proportion of bachelor's degrees awarded to males declined from 54.2 percent in 1977 to 43.3 percent in 2000, or by 10.9 percent.
- For blacks the share earned by men declined from 42.9 percent in 1977 to 34.2 percent by 2000, a decline of 8.7 percent.
- For Hispanics the proportion of bachelor's degrees awarded to men declined from 55.0 percent in 1977 to 40.3 percent by 2000, a decline of 14.7 percent.
- For Asians the male share declined from 55.4 percent in 1977 to 46.0 percent in 2000, a decline of 9.4 percentage points.
- For American Indians the male share of bachelor's degrees declined from 54.2 percent in 1977 to 39.7 percent in 2000, a decline of 14.5 percent.

Of course these data can also be used to describe the gains by women in each racial/ethnic group between 1977 and 2000. But the main point is simply that the gender shift in bachelor's degrees has occurred in each and every identifiable racial/ethnic group in the U.S. since 1977.

Bachelor's Degrees Awarded to Males by Institutional Control 1970 to 2000



Institutional control. The proportion of bachelor's degrees awarded to men between 1970 and 2000 is shown in the above chart. In both public and private institutions the gender distribution of bachelor degree awards has shifted from male to female:

- In public institutions the proportion of bachelor's degrees awarded to males declined from 55.1 to 43.2 percent, a decline of 11.9 percent.
- In private institutions the proportion declined from 58.3 to 42.1 percent, a decline of 16.2 percentage points.

Clearly the gender shift has been greater in private than public institutions. Not coincidentally, the issue of the declining male share of private college enrollments has also become a topic of national conferences only at private institutions.

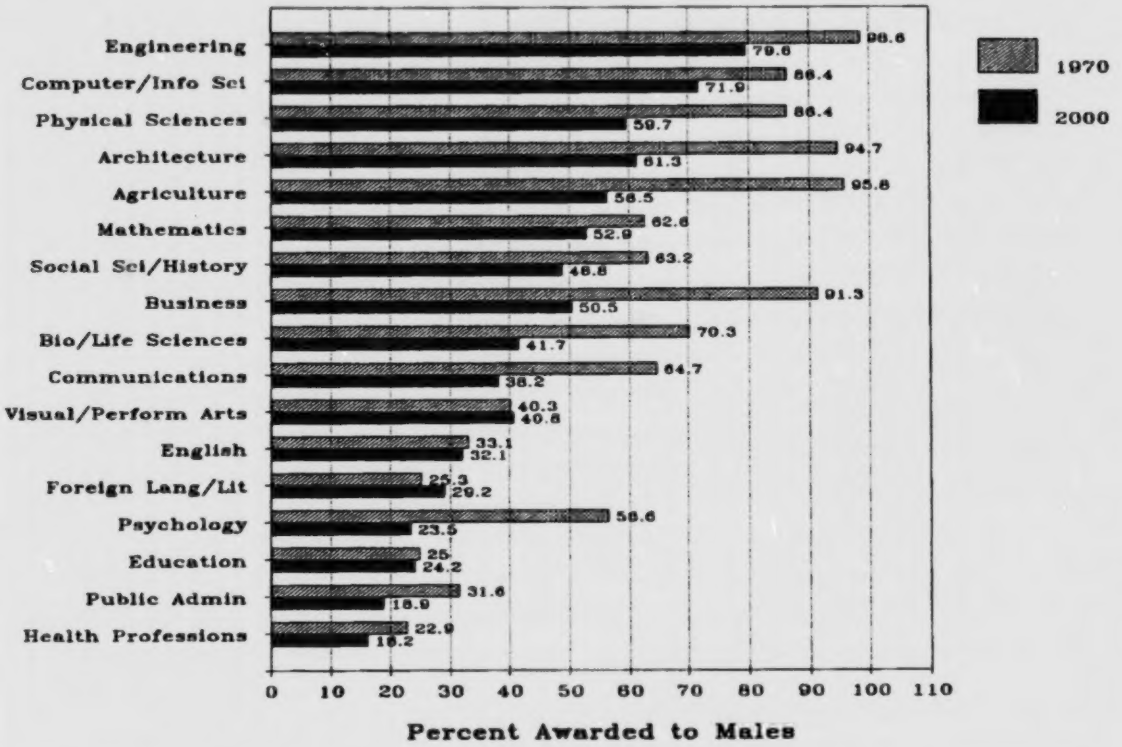
- Goucher College in Baltimore sponsored the first such conference in November, 1999: *Fewer Men on Campus.*
- Morehouse College in Atlanta sponsored the second conference in April, 2001: *Reconnecting Males to Liberal Education.*

Fields of study. The chart on the next page shows the proportion of bachelor's degrees awarded to men by fields of study in 1970 and in 2000.

Here the changes in the gender distribution in some fields of study are remarkable:

- *Business.* The proportion of bachelor's degrees awarded to men declined by 40.8 percent between 1970 and 2000. Or, the share earned by women increased by 40.8 percent. Business was the first alternative field women turned to following the collapse of the job market for school teachers in the late 1960s.
- *Agriculture.* The proportion of bachelor's degrees going to men dropped by 39.3 percent. Partly this is due to the development of agri-business degrees and the growth of female enrollment in business fields.
- *Architecture.* The male share of bachelors degrees in architecture declined by 33.4 percent between 1970 and 2000.
- *Psychology.* The male share declined by 33.1 percent, taking what used to be a male field decidedly female.
- *Biology/life sciences.* The male share of bachelor's degrees declined by 28.6 percent, again taking a male field female between 1970 and 2000.
- *Physical sciences.* The proportion of bachelor's degrees awarded to men declined by 26.7 percent
- *Communications.* Here too the male share declined by 26.5 percent between 1970 and 2000, making a male field female dominated.
- *Engineering.* Historically the most male of all fields at the baccalaureate level, the share of engineering degrees awarded to males declined by 19.0 percent between 1970 and 2000.
- *Computer/information science.* This too was a heavily male field

Bachelor's Degrees Awarded to Males by Field of Study
1970 and 2000



in 1970. It still is, but the share of bachelor's degrees awarded to men declined by 14.5 percent between 1970 and 2000.

Significant declines in the share of bachelor's degrees awarded to males also occurred in social science/history, public administration, mathematics and health professions between 1970 and 2000. These losses for males can also be described as gains for females.

States

The breadth of the gender shift in awarded college degrees becomes even more apparent when the data are examined by state. In 1970 a majority of the bachelor's degrees awarded by higher education went to male in every state. By 2000 a majority of these degrees went to females in very state.

Here we examine the state-level data on the proportion of higher education degrees awarded to males. Space precludes publication here of all of the charts for this analysis. But these additional, unpublished charts are available in the .pdf file of this report on our website.

Associate degrees. In 2000 39.8 percent of the associate degrees were awarded to men. Across the 50 states this share ranged from 29.2 percent in Kentucky to 49.8 percent in Nebraska. In every state, a majority of the associate degrees were earned by and awarded to women.

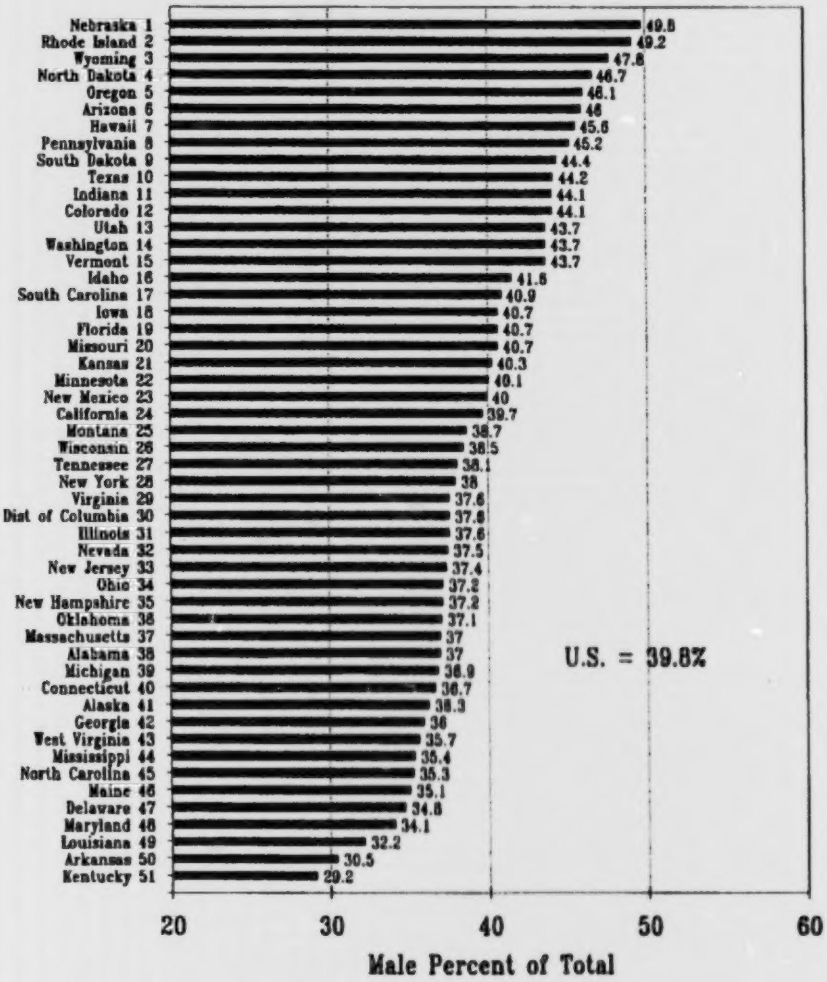
Some geographical clustering is apparent in these data. In three states less than a third of the associate degrees were awarded to men. These are all southern states: Kentucky, Arkansas and Louisiana. Other southern states are clustered here too. This suggests women in these states are more aggressively pursuing community college educations than are southern men.

At the high end of this ranking are some western states. This pattern becomes clearer at higher degree levels.

Bachelor's degrees. In 2000 42.8 percent of the bachelor's degrees were awarded to men. Across the 50 states this ranged from 38.2 percent in Delaware to 48.6 percent in Utah. In every state a majority of the bachelor's degrees were awarded to women in 2000.

However, in 1970 56.9 percent of the bachelor's degrees were awarded to men. A majority of the bachelor's degrees were awarded to men in every

Associate Degrees Awarded to Males by State
2000



state in 1970. This was still true by 1975, except in **Virginia**, where more bachelor's degrees were awarded to women than men that year. Thus, between 1970 and 2000 in every state the proportion of bachelor's degrees awarded to males switched from majority male to majority female.

Master's degree. In 2000, 42.0 percent of the master's degrees were awarded to men, down from 60.3 percent in 1970, 50.6 percent in 1980, and 47.4 percent in 1990.

By 2000 in every state except Utah, men received fewer master's degrees than did women. In Utah, 58.3 percent were awarded to men. Among the other 49 states plus DC, the proportion of master's degrees awarded to males ranged from 32.1 percent in **Vermont** to 48.7 percent in **Idaho**.

Utah stands out from all other states on the gender distribution of bachelor's and master's degrees. Utah was the last state to flip from majority male to majority female on bachelor's degrees, and did not do so until 1998. Most other states had switched around 1980. At the master's degree level, Utah is not only the only state where more males than females earn master's degrees, but it remains so by a wide margin and is not likely to flip anytime soon. Apparently Mormon culture influences higher educational attainment differently between men and women compared to the rest of the country.

Doctorate degree. In 2000 55.9 percent of the doctorate degrees were awarded to males. Across the states, the proportion ranged from 44.8 percent in **New Hampshire** to 75.0 percent in **Alaska**.

In only three states were more doctorates awarded to women than men. Besides New Hampshire, the other states were **Florida** and **Nebraska** (both 48.2 percent).

(Space does not permit reproducing the charts on the gender distribution of master's and doctorate degrees by state here. However, the charts are included with the .pdf report on our website.)

Summary

At the end of the education pipeline--college graduation--all of the small differences in the educational progress of males and females are cumulated and magnified. At college graduation they are on full display and can no longer be ignored.

In this analysis of the gender distribution of college degrees over time the most obvious and important finding is that women have made substantial progress and men have not.

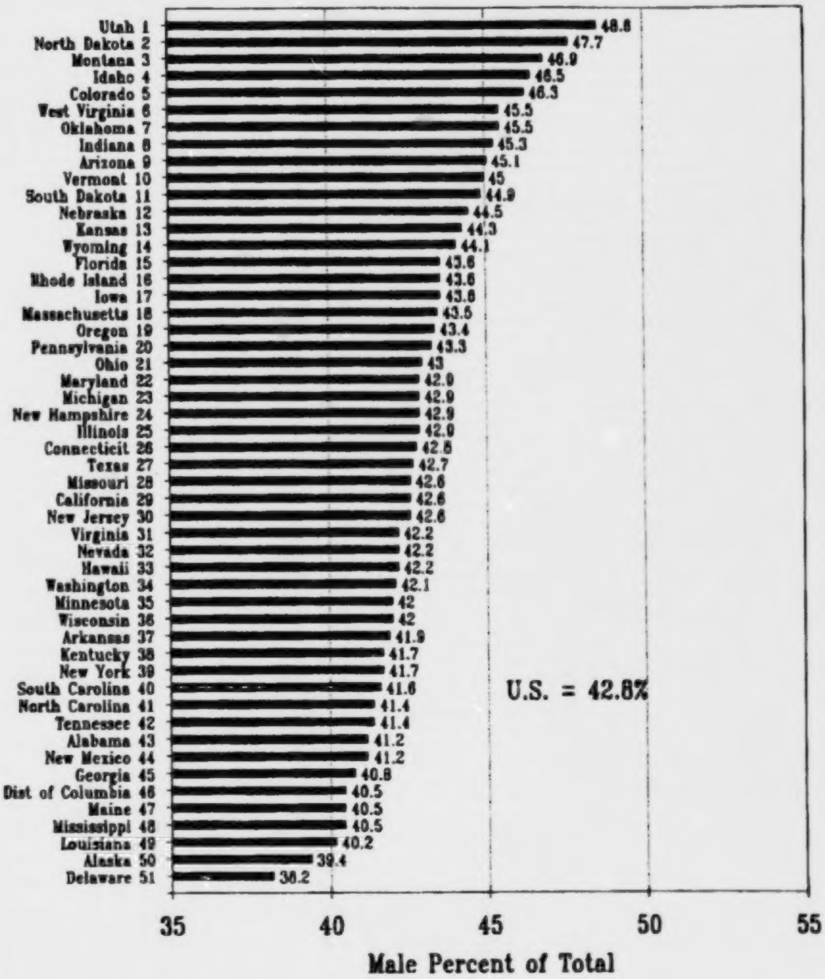
- *Associate degrees.* Between 1970 and 2000, the number of associate degrees awarded to women increased by 251,621 or by 284 percent, while the number awarded to men increased by 107,289 or 91 percent.
- *Bachelor's degrees.* Over this

same 30 year period, the number of bachelor's degrees awarded to women increased by 366,289 or by 107 percent. while the number of bachelor's degrees awarded to men increased by 79,270 or 18 percent.

- *Master's degrees.* Between 1970 and 2000 the number of master's degrees awarded to women increased by 182,597 or 221 percent, while the number of master's degrees awarded to men increased by 66,168 or 53 percent.
- *First professional degrees.* Between 1970 and 2000 the number of first professional degrees awarded to women increased by 33,704 or 1831 percent. The number awarded to men increased by 10,868 or 33%.
- *Doctorate degrees.* Between 1970 and 2000 the number of doctorate degrees awarded to women increased by 15,804 or by 397 percent, while the number of doctorates awarded to men decreased by 862 or 3 percent.

As a direct result, the proportion of associate, bachelor's and master's degrees awarded to men has flipped from majority to minority, and the gender distribution of first professional and doctorates degrees will almost certainly do the same in the next decade.

Bachelor's Degrees Awarded to Males by State
2000



College graduation rates are the result of accumulated life experiences of boys and girls and young men and young women. While boys and girls live and grow up side by side, the environments in which they are raised apparently have different effects on males compared to females. These environmental influences on development appear to be far more supportive of the educational careers of girls than they are of boys.

The environments for children are primarily family and schools and what occurs at home and in the classroom. If we search for the environmental influences in families and schools that affect the educational development of boys and girls differently, a framework begins to emerge.

One line of academic investigation is exploring the developmental differences between boys and girls. This has promise of redesigning the educational experience in ways that respond to boys' learning styles, maturity levels and physical activities. If we are engage a broader share of boys in the educational experience, this must surely come through changes in the educational environment.

But we continue to see powerful evidence of serious trouble in the lives of boys' fathers. Adult men are disengaging from their families, from civic leadership and participation, and from the labor market that has given males their identities as workers and breadwinners. Where we see men more engaged than in the past is in our corrections systems: the United States now has the highest incarceration rates in the world. To us this bespeaks a changing world in which a growing share of men are lost. The evidence at the end of the education pipeline confirms this.

Educational Attainment and State Economic Welfare 1989 to 2000

For more than two decades, nearly all states have been reducing their higher education investment efforts. (Something similar has been happening to K-12 funding as well.) Between FY1978 and FY2002, the state tax funds appropriated to higher education per $1000 of state personal income have declined from $10.56 to $7.87, or by about 27 percent.

This reduction in investment effort has occurred at the same time that higher education has grown more important to the economic welfare of individuals and families. Individuals and families with more education have more income and higher living standards than do people with less education. States consist of individuals and families. Therefore, *a priori*, we would expect state economic welfare to be related to statewide measures of educational attainment of each state's adult population. This analysis tests that assumption.

In this analysis we examine the relationships between two measures of educational attainment--high school graduation and college graduation--with five measures of economic welfare: per capita personal income, median household income, poverty rate, unemployment rate and employed/population ratio.

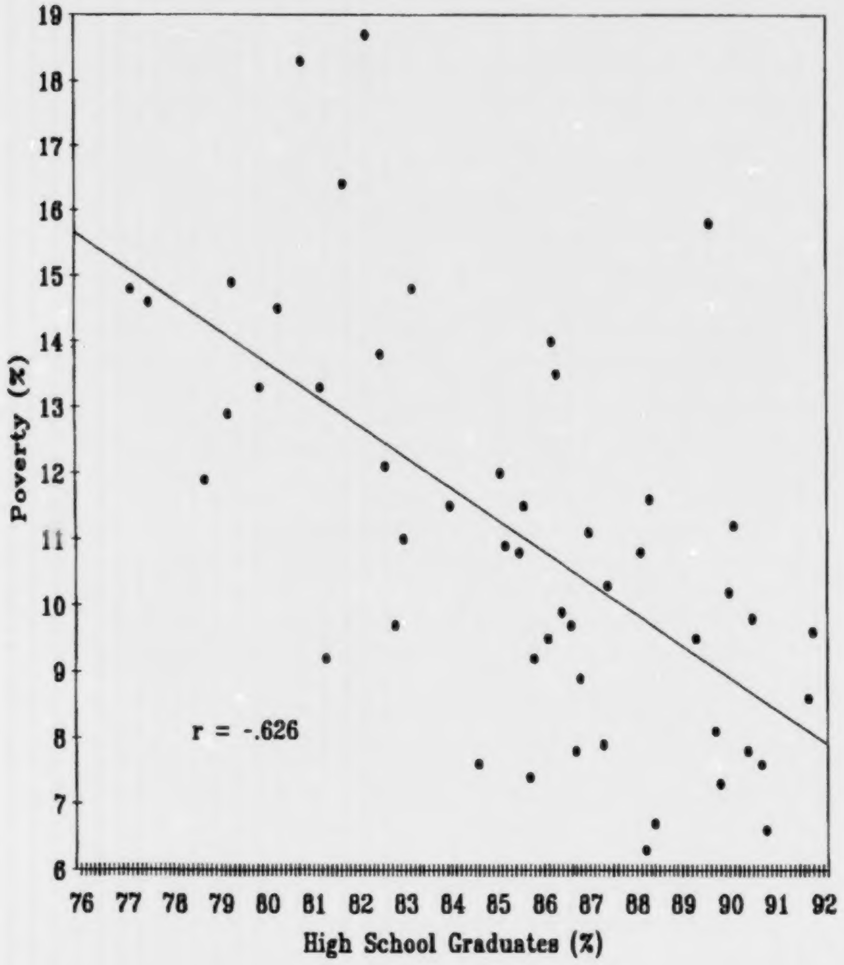
The unit of this analysis is the state. The method of analysis is correlation. Data on educational attainment by state have been reported from the Current Population Survey for the years 1989, 1991 and 1993 through 2000. State level data on all fiv economic measures are available for all years beginning with 1991.

Results of this analysis generally show expected results: states with higher levels of educational attainment tend to be better off on these measures of economic welfare, while states with lower levels of educational attainment tend to be worse off on these same measures.

But the results of our analyses show much more:

- High school graduation tends to be most influential in relation to the employed/population ratio and the poverty rate for the states.
- College graduation tends to be most important in relation to per capita personal income and median household income.
- Over the time period of this study, the importance of high school graduation to per capita personal income and median househol income has declined.
- The importance of a bachelor's degree has grown with respect to per capita personal income and

State Poverty Rates by Proportion of Population
Age 25 and Over that Are High School Graduates
2000



median household income.

The Data

In this analysis we use state-level data on educational attainment and economic measures. The educational attainment data are:

- *High school graduation:* The percent of the population age 25 and over that has at least a high school diploma.
- *College graduation:* The percent of the population age 25 and over that has a bachelor's degree or more from college

These data are collected by the Census Bureau in the Current Population Survey and are reported in the P20 series of Current Population Reports on educational attainment. Recent versions of these reports are available for downloading from the Census Bureau's website at:

http://www.census.gov/population/www/socdemo/educ-attn.html

The data on economic measures are often collected in the Current Population Survey, but are reported in many places.

- *Poverty rate:* These data are collected by the Census Bureau in the Current Population Survey and are reported in the P60 series of Current Population Reports. These reports are available at: http://www.census.gov/hhes/www/poverty.html
- *Median household income:* These data are also collected by the Census Bureau in the Current Population Survey and are reported in the P60 series of Current Population Reports. These reports are available at: http://www.census.gov/hhes/www/income.html
- *Unemployment rate:* These data are collected by the Census Bureau in the Current Population Survey and are reported by the Bureau of Labor Statistics. Recent data in this series is available from the BLS website at: http://www.bls.gov/lau/home.htm

We have found most of these data in back issues of the *Statistical Abstract.*

- *Employed/population ratio:* These data too are compiled by the Bureau of Labor Statistics from the Current Population Survey. We have found most of the data used here in the *Statistical Abstract.* Some recent data is also available from the BLS website at: http://www.bls.gov/lau/home.htm
- *Per capita personal income:* These data are estimated and reported by the Bureau of Economic Analysis. These data are very frequently completely revised for long historical periods. The most recent data are always available from the BEA website at: http://www.bea.doc.gov/bea/regional/data.htm

Our analysis of these data is mainly through simple bivariate correlation. For each year and for all states plus the District of Columbia (51 cases), we have compiled the simple bivariate correlation between each of the two measures of state educational attainment and each of the five measures of state economic activity.

Our compilation of the state data used in these analyses is in an Excel workbook located on our website on the Spreadsheets page.

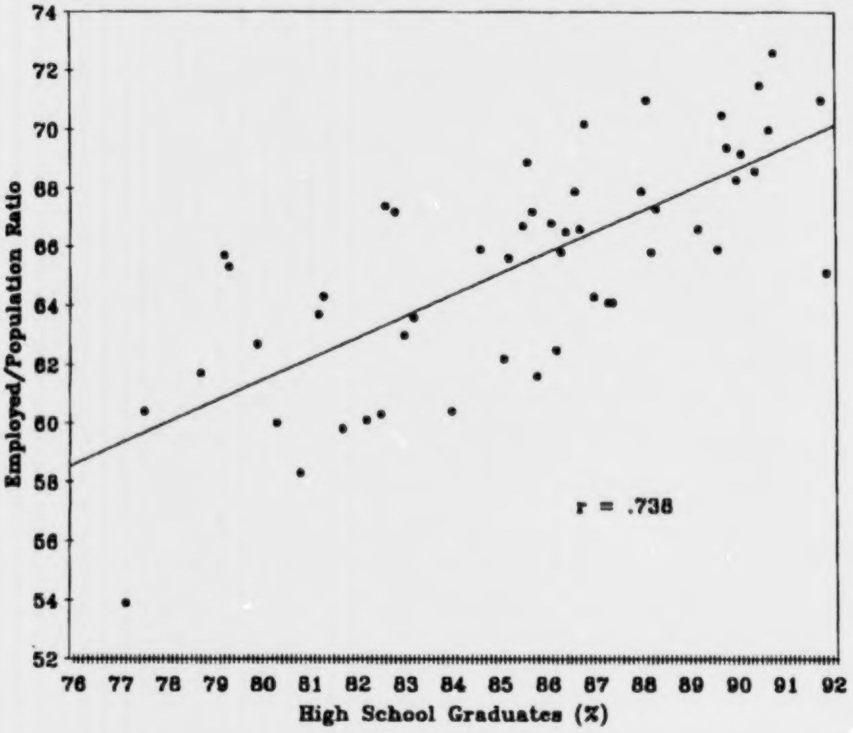
High School Graduation

The correlations between high school graduation and the five economic measures are summarized in the table on the bottom of next page:

Mean/National Values Used in Analysis
1989 to 2000

Year	High School Graduates	Bachelor's Degree or More	Per Capita Personal Income	Poverty Rate	Median Household Income	Unemployment Rate	Employed/ Population Ratio
1989	76.9%	21.1%	$18,566				
1991	78.4%	21.4%	$20,039	14.2%	$30,126	6.7%	61.6%
1993	80.2%	21.9%	$21,557	15.1%	$32,041	6.8%	61.6%
1994	80.9%	22.2%	$22,358	14.4%	$31,241	6.1%	62.5%
1995	81.7%	23.0%	$23,272	13.8%	$34,620	5.6%	63.2%
1996	81.7%	23.6%	$24,286	13.8%	$36,097	5.4%	63.2%
1997	82.1%	23.9%	$25,427	13.5%	$37,227	4.9%	63.8%
1998	82.8%	24.4%	$26,909	13.0%	$39,078	4.5%	64.1%
1999	83.4%	25.2%	$27,859	12.3%	$41,609	4.2%	64.3%
2000	83.4%	25.2%	$29,451	11.5%	$42,168	4.0%	64.5%

Employed/Population Ratio by Proportion of Population Age 25 and Over that Are High School Graduates 2000



Employed/population ratio: The strongest correlations between high school graduation and the five economic measures occur with the employed/population ratio. This finding is consistently and strongly positive, and indicates that states with a relatively high proportion of their populations with at least a high school diploma are most likely to have a relatively high proportion of their population age 16 years and over employed. This also indicates that states with a relatively low proportion of their populations with at least a high school diploma are likely to have the smallest shares of their populations age 16 and over employed.

Over the brief period between 1991 and 2000, the trend in correlations tended to strengthen. While the trend is modestly upward, it was noticeably higher at the beginning and end of the decade, and somewhat lower during the economic expansion period of the middle of the decade. This finding implies that people are more likely to be employed when the economy is soft in those states where high school

State Economic Welfare Correlates with Proportion of State Population that is High School Graduate or More 1989 to 2000

Year	Per Capita Personal Income	Poverty Rate	Median Household Income	Unemployment Rate	Employed/Population Ratio
1989	0.359				
1991	0.369	-0.521	0.559	-0.405	0.711
1993	0.287	-0.726	0.624	-0.410	0.703
1994	0.370	-0.685	0.652	-0.352	0.676
1995	0.316	-0.657	0.621	-0.369	0.663
1996	0.327	-0.686	0.574	-0.327	0.681
1997	0.265	-0.618	0.491	-0.301	0.633
1998	0.328	-0.643	0.538	-0.291	0.698
1999	0.277	-0.656	0.555	-0.313	0.755
2000	0.251	-0.626	0.464	-0.373	0.738
Mean	0.315	-0.646	0.564	-0.349	0.695
Trend	-59	-8	-31	43	23

graduation rates are highest, and somewhat lower during weaker phases of the business cycle in those states that have smaller concentrations of high school graduates. These findings are consistent with our previously reported analyses of employed/population ratios over time for individuals.

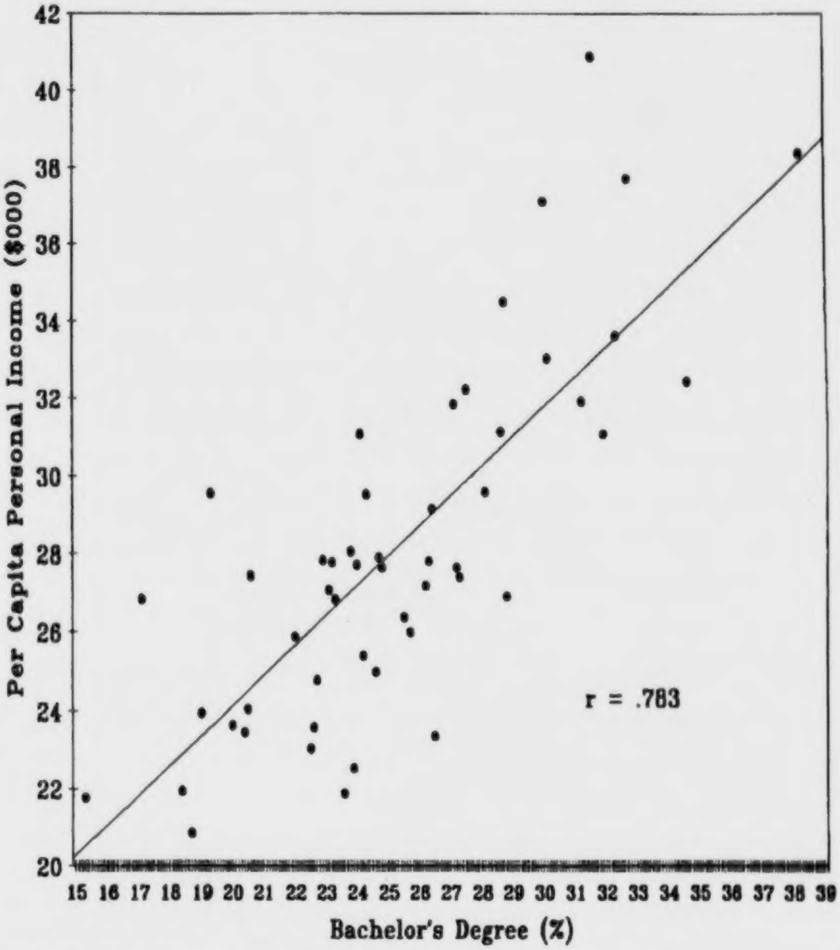
Poverty rate: The second strongest correlation between high school graduation and the five economic welfare measures is with state poverty rates. Here the correlation is strongly and consistently negative. This means that in those states with relatively high proportions of high school graduates, poverty rates tend to be lowest. Likewise, in those states with relatively low proportions of high school graduates, poverty rates tend to be highest. This finding too is consistent with our previous analysis of the relationship between high school graduation and poverty for individuals. There appears to be little trend to these data for the years between 1991 and 2000.

Median household income: The third strongest correlation with high school graduation is with median household income across the 50 states. Here the relationship is consistently strongly positive. That is: median family income tends to be highest in those states with higher proportions of high school graduates, and lower in those states with lower proportions of high school graduates.

While this relationship remains strong, it appears to be weakening over the years between 1991 and 2000.

Unemployment rate: The unemployment rate is consistently negatively correlated with high school graduation for the years between 1991 and 2000. That is to say: unemployment rates tend to be lowest in the states with the highest proportion of high school graduates, and highest in those states with the lowest proportion of high school graduates. This finding is consistent with our previous finding for individuals where unemployment rates were highest among those with lowest levels of educational attainment, and lowest among those with highest levels of educational attainment.

State Per Capita Personal Income by Proportion of Population Age 25 and Over with Bachelor's Degree
2000



The relationship is somewhat weaker than with the previous three economic measures but still strong. Over the years between 1991 and 2000, the relationship between high school graduation and unemployment has weakened somewhat.

Per capita personal income: High school graduation has a consistently positive relationship with per capita personal income across the states between 1991 and 2000. This income measure tends to be higher in those states with relatively larger proportions of high school graduates, and tends to be lower in those states with relatively lower proportions of high school graduates. This finding is entirely consistent with the strong positive relationship between income and educational attainment for individuals, households and families.

This relationship has grown noticeably weaker between 1989 and 2000. More so (or less so) than any other economic indicator, per capita personal income in the states (and among individuals and families) is decreasingly determined by just a high school education. As we will show below, per capita personal income increasingly requires college-level education.

Bachelor's Degree

This analysis also examines relationships between the proportion of each state's population age 25 years and over that has a bachelor's degree or more from college with each of the five independent measures of economic welfare for each state. The results are largely similar in direction to those found above, but vary in the degree of correlation with college graduation. That is to say college education plays a different role than high school graduation in determining economic welfare between the states.

Per capita personal income: Higher education has its strongest relationship to these economic measures when it comes to income, whether individual or household.

The strongest correlation between the proportion of a state's population age 25 years and over with bachelor's degree is with state per capita personal income. The relationship is consistently strongly positive. State per capita personal income tends to be highest in those states where the proportion of the population with a bachelor's degree is highest, and income tends to be lowest where bachelor's degrees are rarest. This finding is consistent with data for both individuals and families as well.

Moreover, between 1989 and 2000 this relationship appears to have strengthened. Per capita personal income increased most in those states with the highest proportions of bachelor's degree holders, and increased least in other states with the smallest proportions of adults with bachelor's degrees.

Median household income. The second strongest correlation between state-level bachelor's degree educational attainment and economic welfare is with median household income. The relationship is consistent, positive and strong. States with higher proportions of adults with bachelor's degrees tend to have higher median household incomes than do states with lower levels of bachelor's degree attainment.

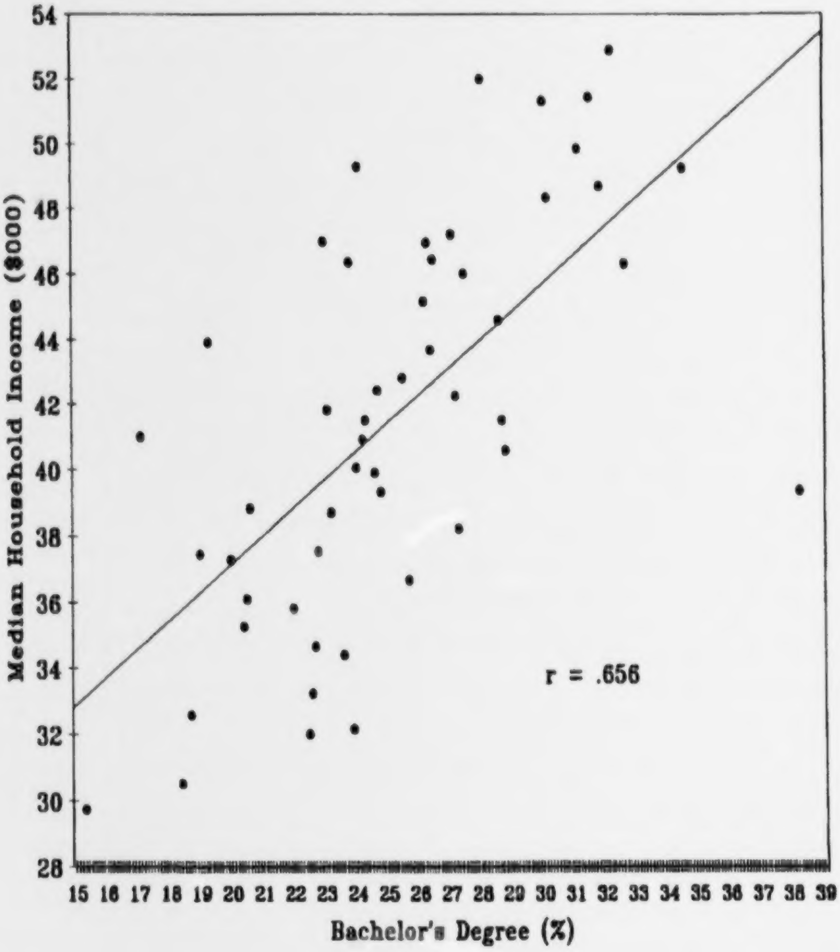
Over the period between 1991 and 2000, this relationship strengthened somewhat as household income increased more in states with higher concentrations of bachelor's degrees than in states with sparser densities.

Employed/population ratio: The correlation between the proportion of people 25 and over with at least a bachelor's degree and the employed/population ratio is positive and consistent. It appears to vary somewhat with the business cycle, having been strongest at the beginning and end of the 1990s, and somewhat less during the middle. Generally, the

State Economic Welfare Correlates
with Proportion of State Population that has Bachelor's Degree or More
1989 to 2000

Year	Per Capita Personal Income	Poverty Rate	Median Household Income	Unemployment Rate	Employed/Population Ratio
1989	0.699				
1991	0.714	-0.294	0.660	-0.170	0.486
1993	0.743	-0.277	0.585	0.050	0.308
1994	0.689	-0.273	0.584	0.052	0.277
1995	0.745	-0.284	0.566	0.135	0.219
1996	0.807	-0.356	0.652	0.026	0.337
1997	0.765	-0.252	0.636	0.040	0.287
1998	0.751	-0.258	0.632	0.026	0.297
1999	0.728	-0.270	0.594	-0.111	0.363
2000	0.783	-0.405	0.656	-0.214	0.423
Mean	0.742	-0.297	0.618	-0.018	0.333
Trend	58	-18	13	-6	-3

State Median Household Income by Proportion of Population Age 25 and Over with Bachelor's Degree 2000



proportion of a state's population age 16 and over that is employed is higher in those states with a larger concentration of bachelor's degree holders, and the proportion employed is lower in other states where there are fewer bachelor's degree holders. This relationship is far stronger with high school graduates, however.

Poverty rate. There is a consistently negative relationship between state poverty rates and the proportion of adults with at least a bachelor's degree from college. This relationship is stronger with high school graduation rates, but still important in relation to college graduation as well.

Unemployment rate. There is no consistent relationship between state unemployment rates and the proportion of adults with a bachelor's degree from college. Having said that, however, this relationship appears to be influenced by the business cycle, and may becoming significant in recent years. This relationship deserves to be monitored, especially as data are gathered that more fully describe the current economic recession.

Other Correlations

The Census Bureau publishes other state-level economic and non-economic data. We have examined some of these measures with respect to state-level educational attainment measures. While most of these relationships appear to be weak, a few are strong and important. We list some of them here.

Retail sales per household. This appears to be positively correlated with high school graduation rates among adults in the states.

Infant mortality rate. This is strongly negatively correlated with both measures of state educational attainment, but more so with the high school graduation rate. This is similar to the importance of high school graduation rates on employment and poverty rates.

Doctors per 100,000 population. The density of doctors in the population is not correlated with state high school graduation rates, but it is strongly positively correlated with the density of bachelor's degree holders in state populations.

General revenue per capita for state government. These are mildly positively correlated with both measures of educational attainment, somewhat more so with high school graduation rates.

Home ownership rate. The rate of home ownership is not correlated with the high school graduation rate, but is strongly negatively correlated with college graduate density in the adult population.

Average annual pay. Average annual pay is not correlated with high school graduation rates, but is strongly positively correlated with college graduate rates in state adult populations.

Violent crimes per 100,000. This crime rate is strongly negatively correlated with high school graduate rates.

(Note: In the above analyses, we have treated Washington, DC, as a state. In many analyses we found that DC skewed the results. That is, correlations weakened when DC was included, and strengthened when DC was excluded. Thus, we re-examined all correlations by excluding DC from the population set. The major findings still hold. The complete data set used in the analyses including each state's educational attainment and economic welfare measures is on our website on the Spreadsheets page.)

Summary

Just as increased educational attainment leads to improved economic welfare for individuals and families, so too does increased educational attainment lead to improved economic welfare for states. More is better, much better.

But these analyses find that the two measures of educational attainment used here--high school graduation and college graduation--influence different sets of economic welfare measures.

The proportion of a state's population age 25 and over that is at least a high school graduate has its greatest influence on minimum economic welfare measures. These include the poverty rate, employed/population ratio and unemployment rate.

The proportion of a state's population age 25 and over that has at least a bachelor's degree has its greatest influence on income measures. These include per capita personal income and median household income.

Thus, states have strategic choices.

Aim low strategy. If state aims are to improve minimum living conditions of their population, then targeting high school graduation is the appropriate strategy. The state goal should be to increase the proportion of adults that are at least high school graduates.

Aim high strategy. But if states aim to improve living standards of their populations well beyond minimum living conditions, then increasing the proportion of the population with at least a bachelor's degree is the appropriate strategy.

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Postsecondary Education
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The Environmental Scanning Research Letter of Opportunity for Postsecondary Education

Number 117 **www.postsecondary.org** **March 2002**

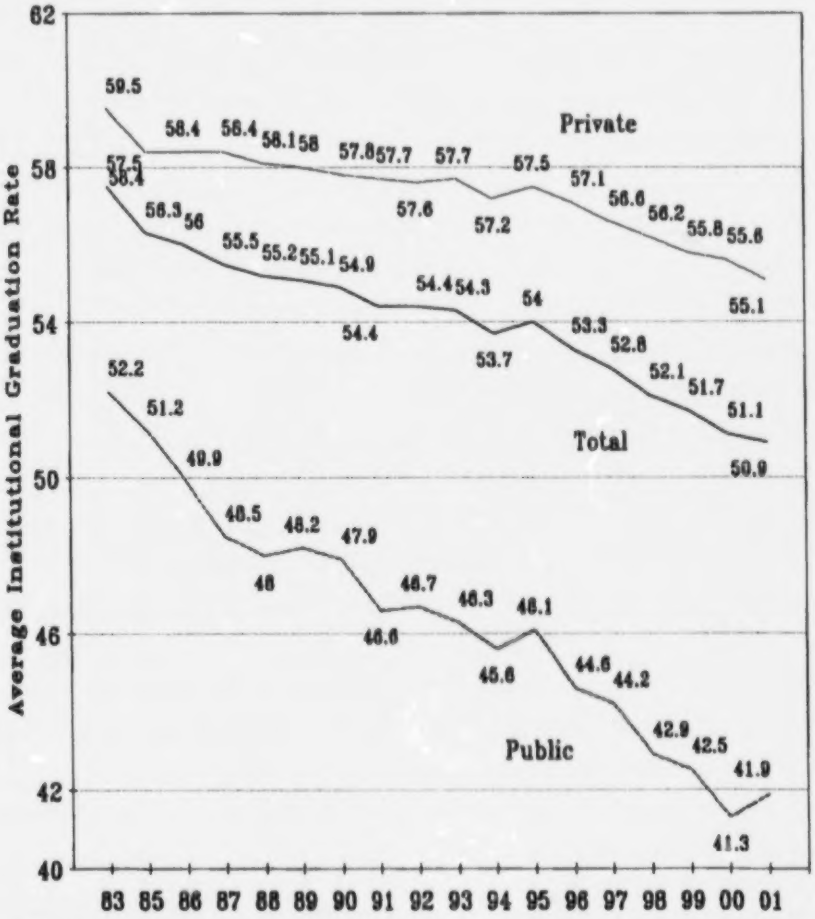
Institutional Graduation Rates by Control, Academic Selectivity and Degree Level 1983 to 2001

Most students who enroll in college intend to graduate. The fall 2001 survey of American four-year college freshmen published by UCLA found that 98.7 percent planned on a bachelor's degree or more from college, and 96.5 percent planned to earn a bachelor's degree or more from the college where they began their studies.

Of course many college freshmen leave college without a degree, some may leave with an associate degree, and many transfer between postsecondary institutions before they complete their studies. We reported our analysis of Census Bureau data collected in the March *Current Population Survey* between 1992 and 2000 in the December 2000 issue of OPPORTUNITY (#102). In 2000 among those 25 to 29 years old that had entered college:

- 49.8 had completed at least a bachelor's degree. This was up from 48.3 percent in 1992, and a low of 44.7 percent in 1994.
- The bachelor's degree completion rate ranged from 29.4 percent for Hispanics to 69.1 percent for Asians. It was 50.7 percent for males and 49.0 percent for females.
- 14.9 percent of those 25 to 29 years had completed an associate's degree. This was up from 13.5 percent in 1992.
- The associate degree completion rate for those 25 to 29 years in 2000 ranged from 8.3 percent of Asians to 27.1 percent for American Indians.

5-Year Institutional Graduation Rates
at Public and Private 4-Year Institutions
1983 to 2001



An undergraduate college degree has replaced the high school diploma as the minimum credential for the better paying jobs available in the American economy. Thus, who gets a college education decides who will prosper and who will be left out of life's opportunities.

For institutions, graduating the talent they admit becomes an important measure of the quality of the educational experience offered to admitted students. Institutions that graduate a high proportion of those they admit presumably have done a better job educating their students than do other institutions that graduate a lower proportion of those they admit.

Of course the probability that a student will graduate from college is primarily determined by their prior academic record in high school and on college admissions tests. *A priori* one must expect selective admissions colleges to graduate a larger proportion of their enrolled freshmen than will less selective colleges.

Here we examine institutional graduation rate (IGR) data collected by ACT on 2370 public and private two-year and four-year colleges and universities that admit freshmen. Of the total, 919 are two-year institutions and 1451 are four-year colleges and universities. The institutional graduation rates for two-year colleges are collected three years after admission, and the institutional graduation rates for four-year institutions are collected five years after admission.

Generally the ACT data (unlike the Census data) show declines in institutional graduation rates between 1983 and 2001. For example:

- Between 1983 and 2001 the 5-year IGRs for four-year colleges and universities declined from 58.4 to 50.9 percent.
- During this same period, the 3-year IGRs for two year colleges declined from 44.1 to 35.9 percent.

However institutional graduation rates have been rising at some institutions, notably highly selective institutions, in recent years. These and other findings result from our analyses of the annual reports ACT has published since 1983.

The Data

Each year ACT gathers a variety of data from American colleges and universities on its Institutional Data Questionnaire (IDQ). These data are used in support of its core business, the ACT Assessment. The data are also published in ACT's *College Planning/Search Book* that ACT provides for college planning.

Among the many questions on the IDQ, ACT asks institutions for data on those who graduate. For two-year colleges, ACT asks:

> *% of entrants who complete an associate degree at this institution within 3 years*

For four-year colleges, ACT asks:

> *% of entrants who ultimately complete the baccalaureate degree at this institution within 5 years after high school graduation*

The results are cross-tabulated with institutional characteristics data that describe institutions by control (public, private), highest degree offered (associate, BA, MA, PhD), and admissions selectivity. Institutions are asked on the IDQ to identify their freshman admissions policy as applied to in-state or in-supporting-area students:

- Highly selective (majority of accepted freshmen in top 10% of high school graduating class)
- Selective (majority of accepted freshmen in top 25% of high school graduating class)
- Traditional (majority of accepted freshmen in top 50% of high school graduating class)
- Liberal (some freshmen from lower half of high school graduating

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Mission Statement

This research letter is founded on two fundamental beliefs. First, sound public social policy requires accurate, current, independent, and focused information on the human condition. Second, education is essential to the development of human potential and resources for both private and public benefit. Therefore, the purpose of this research letter is to inform those who formulate, fund, and administer public policy and programs about the condition of and influences that affect postsecondary education opportunity for all Americans.

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class)
- Open (All high school graduates accepted, to limit of capacity)

ACT provides typical ACT and SAT test score ranges that correspond to these admissions policies as follows:

	ACT	SAT
Highly selective	27-31	1220-1380
Selective	22-27	1030-1220
Traditional	20-23	950-1070
Liberal	18-21	870-990
Open	17-20	830-950

ACT reported IGR data on 2370 institutions in its 2001 report. These institutions were broken down as follows:

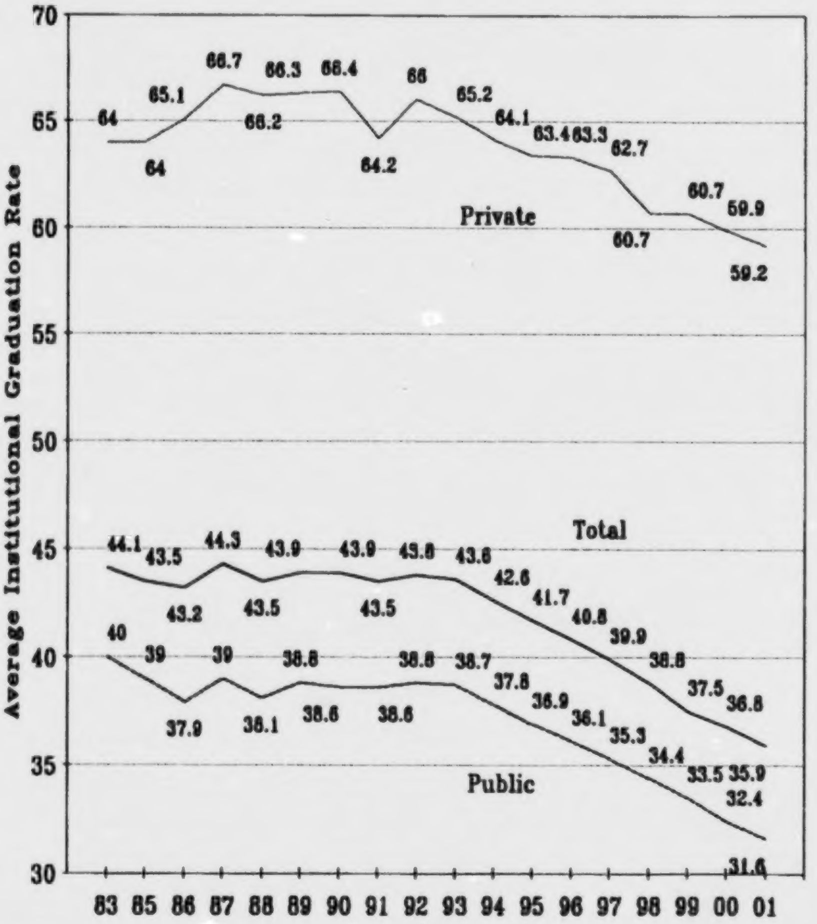
Control	Public	1233
	Private	1137
Level	AA	919
	BA	446
	MA	646
	PhD	359
Select.	Highly selective	130
	Selective	383
	Traditional	653
	Liberal	328
	Open	878

ACT has reported the data on three- and five-year institutional graduation rates since 1983. OPPORTUNITY has compiled all of these data into a single large Excel workbook available on our website. The data are prepared and distributed by Dr. Wes Habley at ACT. Copies of the most recent ACT report on National Dropout and Graduation Rates for 2001 can be obtained by e-mail: habley@act.org.

Institutional Graduation Rates

In 2001 the five-year IGR for four-year colleges and universities was 50.9 percent. This was down from 58.4 percent in 1983, the first year ACT reported these data. The decline has been almost continuous since 1983, but has been somewhat faster since about 1995.

3-Year Institutional Graduation Rates
at Public and Private 2-Year Institutions
1983 to 2001

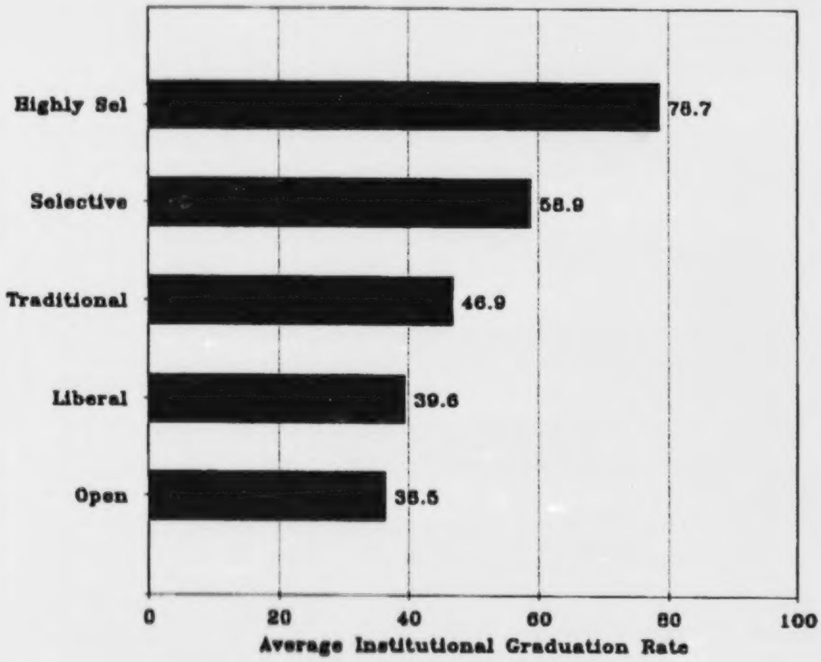


In two-year colleges, the three-year institutional graduation rate for 2001 stood at 35.9 percent. This was down from 44.1 percent in 1983. This decline has been particularly steep since about 1993, as shown in the chart on this page.

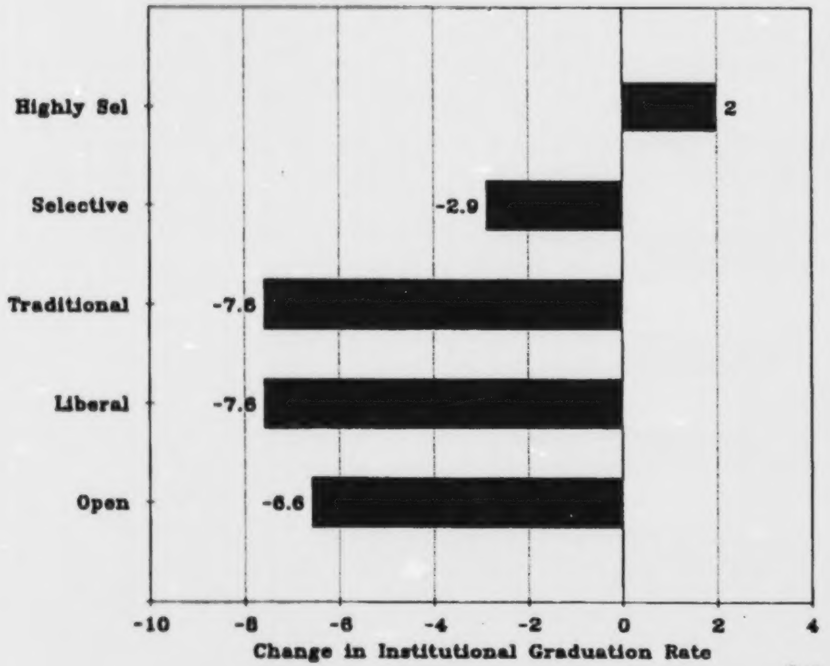
Control. Typically institutional graduation rates are higher in private colleges than in public institutions. In four-year institutions, the five year graduation rate in 2001 at private institutions was 55.1 percent, compared to 41.9 percent at public institutions. In two-year colleges, the three-year graduation rate was 31.6 percent in publics compared to 59.2 percent in privates.

Since 1983 IGRs have declined in both public and private institutions. The declines have been least in private institutions, and considerably greater

5-Year Institutional Graduation Rates by Admissions Selectivity for Institutions Awarding Bachelor's Degrees 2001



Change in 5-Year Institutional Graduation Rates by Admissions Selectivity 1988 to 2001



in the publics.

- In private two-year colleges, the mean three-year IGR declined from 64.0 percent in 1983 to 59.2 percent by 2001, or by 4.8 percentage points.
- In public two-year colleges, the average three-year IGR declined from 40.0 percent in 1983 to 31.6 percent by 2001, or by 8.4 percentage points.
- In private bachelor's degree-granting colleges, the mean five-year IGR declined from 59.5 percent in 1983 to 55.1 percent by 2001, or by 4.4 percentage points.
- In public bachelor's degree-granting colleges, the mean five year IGR declined from 52.2 percent in 1983 to 41.9 percent by 2001, or by 10.3 percentage points.

Admissions Selectivity

Since its inception in 1983, the ACT Graduation Rate Report has compiled data on graduation rates by admissions selectivity. This is essential to understanding variations in IGRs across institutions. *A priori* we fully expect more selective institutions to graduate their admitted students at higher rates than will less selective institutions. The ACT data fully confirm this expectation.

Because admissions selectivity is only a characteristic of four-year institutions, the following analysis is limited to those institutions that award bachelor's degrees or higher.

In 2001 five-year institutional graduation rates ranged from 36.5 percent at open admissions institutions, to 78.7 percent at highly selective institutions. As shown in the first chart on this page, average IGRs increased steadily and substantially with increasingly selective admissions practices of institutions.

Between 1988 and 2001, while overall IGRs were declining among colleges and universities that award at least the bachelor's degree from 58.1 to 55.1 percent, the changes varied greatly from this average according to admissions selectivity.

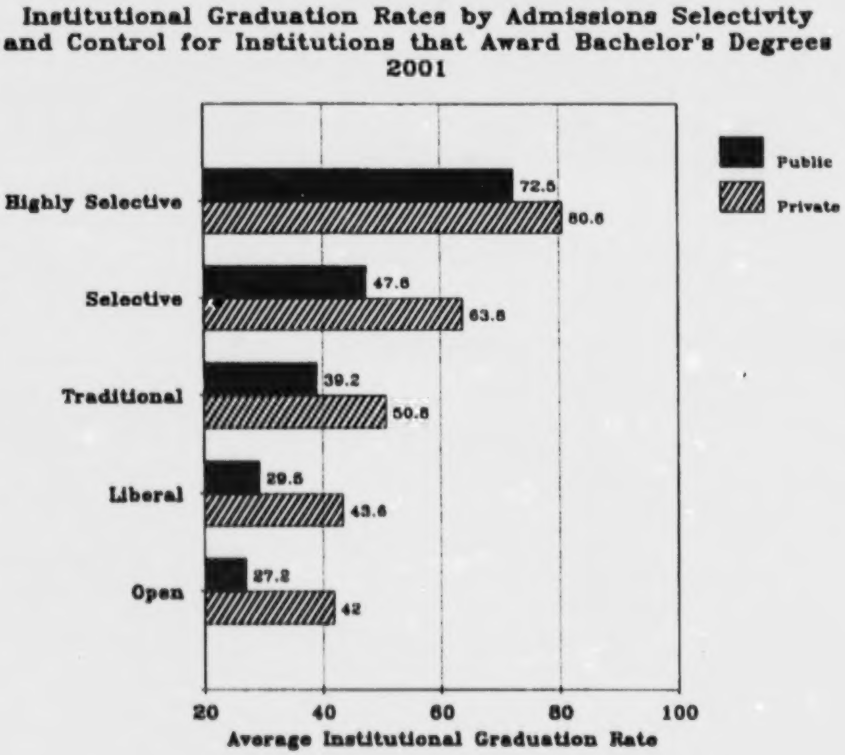
- At highly selective four-year institutions, the average IGR actually increased by 2.0 percentage points. It was high in 1988 and increased thereafter.
- At traditional, liberal and open admissions institutions, the average IGR declined by between 6.6 and 7.6 percentage points between 1988 and 2001.

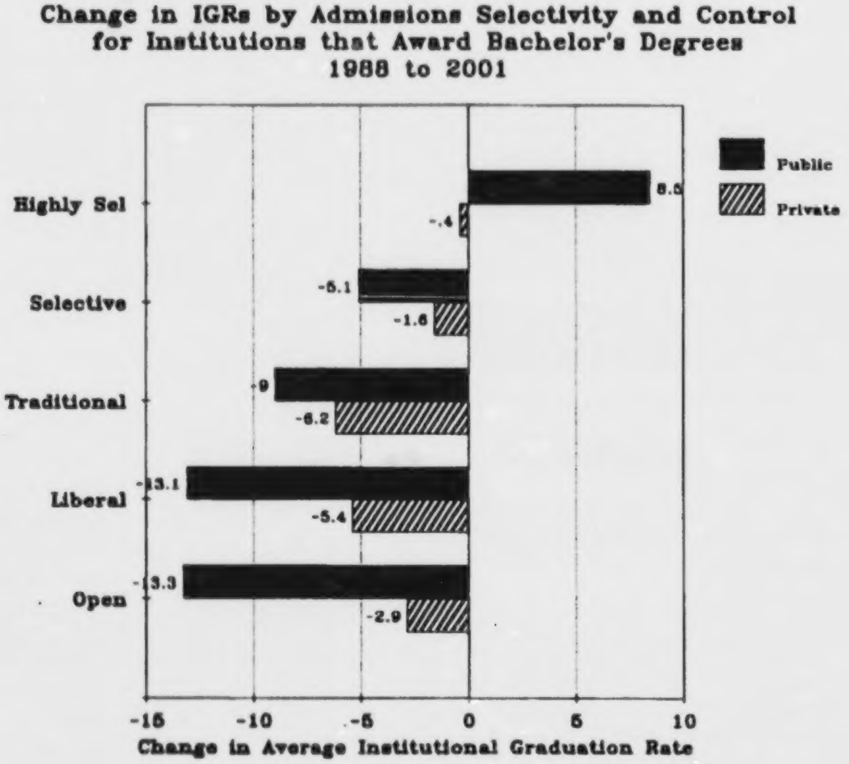
The significance of the above findings cannot be overstated. We will return to them at the conclusion of this analysis. But the most selective institutions serve the students from the highest income families. The least selective institutions serve students from the lowest income families. Thus graduation rates tended to improve for those students born into the highest income families between 1988 and 2001, and declined the most for students born into middle and low income families. This finding is supported by other evidence as well.

Admissions Selectivity and Control

The previous finding that five-year institutional graduation rates are closely related to admissions selectivity holds for both public and private bachelor's degree-granting institutions as well. As shown in the top chart on this page, in 2001 average IGRs for public institutions ranged from 72.5 at the highly selective institutions to 27.2 percent at the open admissions institutions. In private institutions average IGRs ranged from 80.6 percent at high selective colleges and universities to 42.0 percent at open admissions institutions.

Between 1988 and 2001 average IGRs increased only at highly selective public institutions (of which there


Institutional Graduation Rates by Admissions Selectivity and Control for Institutions that Award Bachelor's Degrees 2001


Change in IGRs by Admissions Selectivity and Control for Institutions that Award Bachelor's Degrees 1988 to 2001

Median Estimated Parental Income for College Freshmen by Institutional Level, Control and Academic Selectivity 1995

	Academic Selectivity				All
	Low	Medium	High	Very High	
Two-Year					
Public	-	-	-	-	$28,605
Private	-	-	-	-	$40,097
Four-Year					
Public	$44,621	$50,634	$63,379	-	$48,168
Nonsectarian	$40,089	$55,076	$61,204	$78,175	$56,518
Protestant	$48,433	$54,697	$60,484	-	$52,248
Catholic	$50,448	$52,098	$65,980	-	$55,076
Black					
Public	-	-	-	-	$28,605
Private	-	-	-	-	$40,097
Universities					
Public-men	$57,941	$58,485	$70,257	-	$58,110
Public-women	$54,361	$56,336	$67,059	-	
Private-men	$61,667	$78,767	$90,224	-	$72,664
Private-women	$56,429	$72,805	$90,600	-	

Source: *The American Freshman: National Norms for Fall 1995.*

were 30 institutions in 2001). At all other institutional controls and admissions selectivity levels, average IGRs declined between 1988 and 2001. The decline was greatest at liberal and open admission public colleges and universities.

We have examined changes in institutional graduation rates by highest degree offered and institutional control since 1990. Space does not permit detailing these findings here (although the charts are available with this analysis on our website). Among public institutions:

- Average IGRs increased substantially at highly selective public institutions where the highest degree awarded is the bachelor's degree (+13.6 percent), master's degree (+12.9 percent) and doctorate (+8.2 percent).
- At all other selectivity levels, average IGRs declined.
- The declines in average IGRs were greatest–more than 16 percent–in open admission bachelor's degree colleges, open admission master's degree universities, and liberal admission bachelor's degree colleges.

In private institutions, changes in IGRs were smaller since 1990:

- Average IGRs increased in open admission bachelor's degree colleges (+1.3 percent), highly selective bachelor's colleges (+0.9 percent) and liberal admissions master's colleges (+0.1 percent).
- In all other institutional classifications, average institutional IGRs declined.
- The declines in average IGRs were greatest in open admission master's institutions (-8.8 percent), traditional admissions doctorate universities (-6.6 percent) and traditional admissions master's colleges (-6.2 percent).

Conclusion

These data generally describe declining five-year institutional graduation rates at institutions that award the bachelor's degree, and declining three-year graduation rates at two year colleges over the last two decades. The only exceptions are among highly selective public institutions where average IGRs have actually increased since 1988.

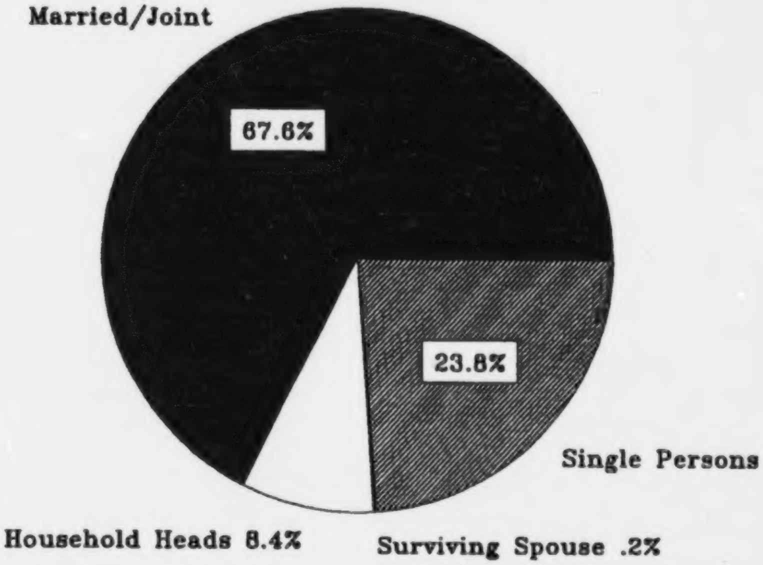
However, Census data on the proportion of 25 to 29 year olds with a bachelor's degree that started college show increasing trends in graduation rates. Between 1992 and 2000 there has been a slight increase in college completion rates. The difference may be explained in terms of lengthening time to degree and student transfer patterns between colleges. There is solid evidence that both have occurred in recent years.

A more important finding from this analysis is the improvement in institutional graduation rates among highly selective institutions, and deterioration in average IGRs at less selective institutions, particularly the least selective institutions. Expressed another way, students from the highest family income backgrounds have improved their college completion rates while students from lower income families have seen declines in college completion rates. These declines have been greatest among those from lowest family income backgrounds.

The table on this page shows median family incomes for 1995 freshmen (when the ACT cohorts entered college) by admissions selectivity. The relationship between income and selectivity is clear and consistent. The rationing of higher education by family income during the 1990s background is a clear failure of public and institutional policy to broaden and equalize educational opportunity.

Hope Scholarship and Lifetime Learning Tax Credits: Distribution of Benefits 1998 and 1999

Federal Education Tax Credits
by Marital Status
1999



$4,772,443,000

In 1997 Congress enacted and President Clinton signed into law the Taxpayer Relief Act of 1997. This amendment to the Internal Revenue Service (IRS) tax code created, among other things, the federal Hope Scholarship and Lifetime Learning Tax Credits. These credits are worth up to $1500 per year for up to two years of higher education.

- In 1998, the first year income tax filers could claim these credits, 4,652,596 individual income tax returns claimed $3,376,647,000 in these two education credits.
- In 1999 education credits were claimed on 6,436,654 tax returns, with total claims of $4,772,443,000.

Note that the education tax credits are not refundable. That means not all who claimed them actually received the monetary benefit. Education tax credits only provide monetary benefits on taxable returns.

- In 1998 619,313 nontaxable federal income tax returns were filed claiming $403,312,000 in education credits.
- In 1999 944,676 nontaxable returns were filed claiming $641,020,000 in education credits.

These filers received no monetary benefits on their education tax credit claims. These were mainly low income tax filers, as will be shown in this analysis.

This analysis critically examines from very skimpy published IRS information first-year data for 1998 and second-year data for 1999 on the distribution of federal education tax credit benefits.

Background

President Clinton first proposed using the tax system to help families finance higher education on December 15, 1994. He proposed a tuition tax deduction of up to $10,000 per year for federal income tax filers. The deduction he proposed at that time would have been available to filers with incomes up to $120,000 per year, phased in between 1996 and 2000 and would occur "above the line" thereby reducing the taxpayer's adjusted gross income.

OPPORTUNITY and a very few other policy analysts sharply criticized this program when it was under study. Our analysis and criticism was reported in the February 1995 issue of OPPORTUNITY (#32). We concluded that most of the benefits would go to people who did not need additional federal assistance to finance their higher educations and that low income families would could receive no benefit, depending on details not then decided.

In the September 1996 issue of OPPORTUNITY (#51), Larry Gladieux and Robert Reischauer raised their own series of questions about the second version of President Clinton's proposal. By this time tax credits had been added to the proposal, with second year eligibility for the deduction or credit based on the student earning B grades in the first year of college. Gladieux and Reischauer posed these questions, and answers:

- *Will tuition tax credits and deductions boost postsecondary enrollment? Answer: Not significantly.*
- *Will they help moderate- and low-income students who have the most difficulty meeting tuition costs? Answer: Not for people without taxable income, and because the Pell Grant would be used as an initial offset to eligibility.*
- *Will the plan lead to greater intrusion into higher education? Answer: The IRS has long opposed tuition tax credits because of regulatory burden.*
- *Will the program encourage still higher tuition levels and more grade inflation? Answer: Both tuition and grades were rising anyway. This could encourage more inflation in both.*
- *If more than $40 billion in new resources really can be found to expand access to higher education, is this the best way to invest it? Answer: A far better investment would be need-based student financial aid.*

Gladieux and Reischauer concluded that Clinton's 1996 election year proposal should be forgotten after the election was over.

Nevertheless, Congressional leadership and the White House negotiated their agreement--behind closed doors and without public hearings or input. The huge dollar sums involved--$40+ billion over five year--bought the qualified support of higher education leadership. The Hope Scholarship and Lifetime Learning tax credits became law in 1997. They became effective with the 1998 tax year.

Until recently these tax credits could not be analyzed because program data were not available. The data required to study the program benefits to taxpayers are very closely guarded by the Internal Revenue Service. Access to IRS tax return data is strictly controlled and highly limited under federal law. Even for policy studies these data are not made available.

Nevertheless, several studies of federal education tax credits have been conducted, all of which are available from their organizational websites. These include:

Conklin, Kristin D. (December 1998.) *Federal Tuition Tax Credits and State Higher Education Policy, A Guide for State Policy Makers.* National Center for Public Policy and Higher Education. Report 98-6. www.highereducation.org

Wolanin, Thomas R. (April 2001.) *Rhetoric and Reality: Effects and Consequences of the HOPE Scholarship.* Institute for Higher Education Policy. Washington, DC. www.ihep.com

Hoblitzell, Barbara A., and Smith, Tiffany L. (November 2001.) *Hope Works: Student Use of Education Tax Credits.* Lumina Foundation for Education. Indianapolis, IN. www.luminafoundation.org

Recently the IRS has begun reporting very small amounts of 1998 and 1999 federal income tax return data. These data provide a preliminary and very incomplete glimpse into the size of the program and the distribution of its tax credit benefits.

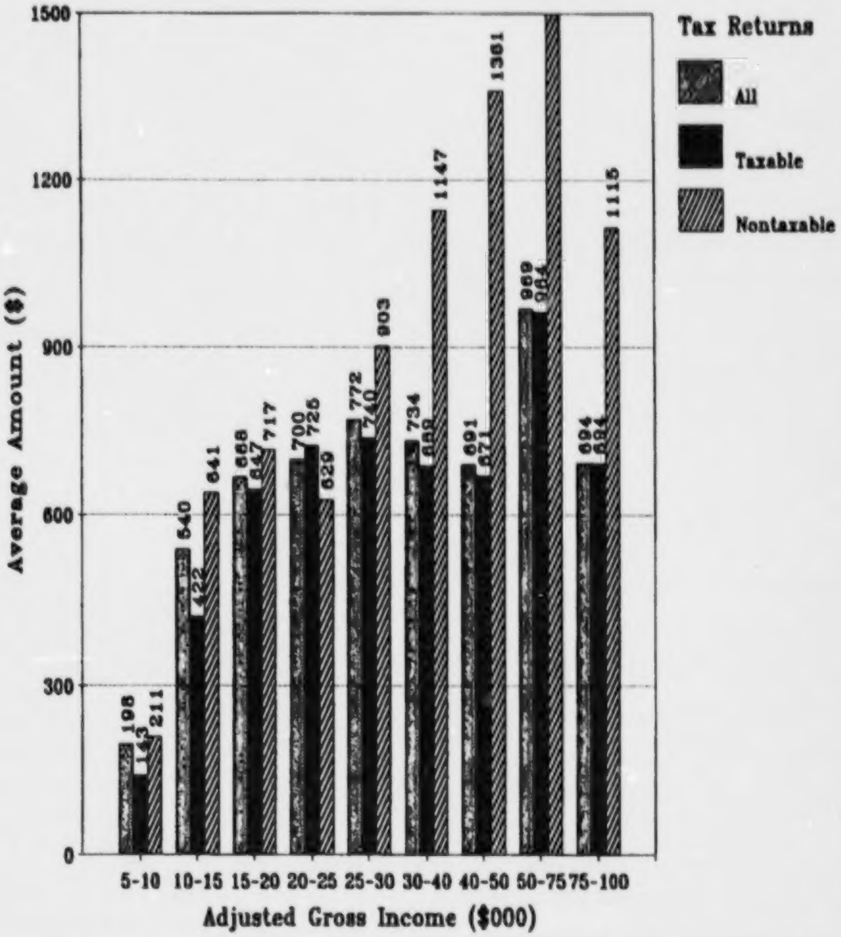
This glimpse tentatively confirms our initial fears that the people who need the most help to pay college attendance costs have been excluded from program benefits. Moreover, those who least need additional financial help (where need is defined under Title IV of the Higher Education Act) receive the largest program benefits.

OPPORTUNITY believes, as do other policy analysts, that the Hope and Lifetime Learning tax credit legislation should be repealed. It was, and remains, bad public policy. The resources used to fund Hope Scholarship and Lifetime Learning Tax Credits should instead be redirected to the woefully underfunded Pell Grant program where financial aid is directed toward students who need them.

As our following analysis points out, the college continuation rate for recent high school graduates actually declined sharply when the education tax credits program was implemented. There is no measurable enrollment gain against which to attribute this enormous expenditure. It greatly exacerbates an already profoundly maldistribution of social investment for higher educating America's youth. Ultimately, programs like this make the growing income inequality in America worse than it already is, and thereby dims our national future.

In the following analysis we examine the sketchy data on Hope and Lifetime Learning tax credit beneficiaries released by the Internal Revenue Service. Further study of this program is currently underway by the Government Accounting Office (an arm of Congress) in a study scheduled for release in early August. The GAO study has obtained some additional data from the IRS on beneficiaries that are not available to OPPORTUNITY. As Congress prepares to reauthorize the Higher Education Act and the Title IV student financial aid programs contained therein, these studies may help committees to identify unmet and overmet financial needs of students and their families.

Federal Education Tax Credits
by Adjusted Gross Income
1999



The Data

The primary source for data on federal Hope and Lifetime Learning Tax Credits used in this analysis is an annual publication of the Internal Revenue Service.

Internal Revenue Service. (2001.) *Individual Income Tax Returns 1998.* Publication 1304 (revised 4/2001), catalog number 63338H.

Internal Revenue Service. (2002.) *Individual Income Tax Returns 1999.* Publication 1304 (revised 10/2001), catalog number 63338H.

Additional information is published by the Internal Revenue Service in:

Internal Revenue Service. *Tax Benefits for Higher Education.* Publication 970, catalog number 25221V.

Both of these publications are available through the IRS website at:

http://www.irs.gov

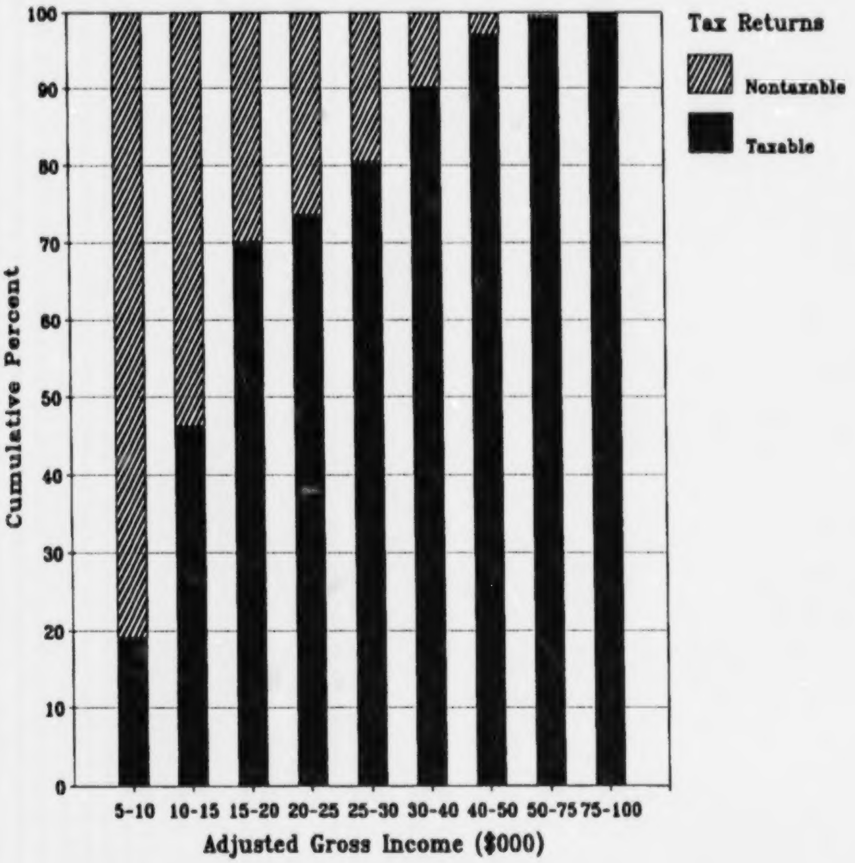
Additionally, we have used data collected by the Census Bureau and reported by the Bureau of Labor Statistics to illustrate changes in college continuation rates for recent high school graduates before and after adoption of these federal tax credits. We have also used data from the 1996 National Postsecondary Student Aid Study (NPSAS96) to illustrate the distribution of unmet and overmet financial need of college students.

Benefits

As explained by the Internal Revenue Service:

> *Beginning in 1998, Hope Scholarship Credit and Lifetime Learning Credit were available for post-secondary educational expenses. Based on eligibility, a taxpayer could claim only one of the credits with respect to a certain student for a certain year. If the student made a tax-free withdrawal from an educational IRA, neither credit could be claimed. The credits would be phased out for AGI between $40,000 and $50,000 ($80,000 and $100,000 for married filing jointly).*
>
> *The Hope Scholarship Credit provided a maximum credit per student of 100 percent of the first $1000 of qualified tuition and related expenses and a 50 percent credit for the next $1000 of eligible expenses for enrollment in undergraduate programs. Also, the credit only applied for the first two years of post-secondary education.*
>
> *Unlike the Hope Scholarship Credit, the Lifetime Learning Credit could be used for qualified tuition and expenses for undergraduate, graduate level, and professional degree courses. The credit could be used for an unlimited number of years, as long as the taxpayer or dependents were enrolled in post-secondary education. This credit applied to expenses paid after June 30, 1998, and a maximum Lifetime Learning*

Federal Education Tax Credits
by Taxable/Nontaxable Status and Adjusted Gross Income
1999



Credit of $1000 could be claimed per tax return.

Beneficiaries

The IRS has published combined data on Hope Scholarship and Lifetime Learning Tax Credits (called "education credits") for 1998 and 1999. These are the first two years that these credits could be claimed.

- In 1998, the education credits were claimed on 4,652,596 individual income tax returns. The total amount claimed was $3,376,647,000, for an average education credit of $726.
- In 1999 the education credits were claimed on 6,436,654 tax returns. The total amount claimed was $4,772,443,000. The average claim was $741.

For 1998 the education credits were claimed on four types of federal individual income tax returns, as follows:

Type:	Number	Amount	Mean
Married	2,997,187	$2,384,499,000	$801
Single	1,274,752	$704,832,000	$553
Heads	393,793	$279,171,000	$710
Survivors	6,865	$1,186,000	$1186
Total:	4,652,596	$3,376,647,000	$726

The education tax credits were claimed on tax returns using both itemized deductions and the standard deduction roughly equally. Married person filings were more likely to itemize deductions, and single person tax filings were more likely to use the standard deduction. The average education tax credit *claimed* by *all* income tax filers in 1998 increased with adjusted gross income as follows:

All Tax Filers

AGI(000)	Number	Amount	Mean
No AGI	-	-	–
$1-5	-	-	–
$5-10	185,998	$40,044,000	$215
$10-15	321,341	$170,622,000	$531
$15-20	354,291	$240,874,000	$680
$20-25	308,742	$200,476,000	$649
$25-30	338,931	$229,641,000	$678
$30-40	616,107	$466,691,000	$757
$40-50	587,167	$376,839,000	$642
$50-75	1,196,887	$1,092,185,000	$920
$75-100	753,125	$559,273,000	$743
$100-200	-	-	-

Excluding Low Income Tax Filers

The Hope and Lifetime Learning Tax Credits are only available to those who pay federal income taxes. They are not refundable. To claim the full tax credit of $1500, the taxpayer most have a federal income tax liability of at least $2000. Thus, when the education credit claims are limited to taxable returns, an important distinction begins to emerge: not all who claim the education tax credits receive them. And those who are left out come from the lowest income families.

Taxable Returns Only

AGI(000)	Number	Amount	Mean
No AGI	-	-	–
$0-5	-	-	–
$5-10	32,951	$5,836,000	$177
$10-15	162,028	$58,605,000	$362
$15-20	262,925	$175,512,000	$667
$20-25	211,916	$129,364,000	$610
$25-30	285,714	$181,949,000	$637
$30-40	565,205	$410,2646000	$726
$40-50	578,440	$368,844,000	$638
$50-75	1,181,865	$1,083,865,000	$918
$75-100	752,976	$559,096,000	$743
$100-200	-	-	-

Excluded Federal Tax Credit Claimants

Those who claimed the education tax credits for 1998 but whose tax returns were not taxable are described in the following table:

Nontaxable Returns Only

AGI(000)	Number	Amount	Mean
No AGI		-	-
$0-5	-	-	-
$5-10	153,047	$34,208,000	$224
$10-15	159,313	$112,017,000	$703
$15-20	91,366	$65,362,000	$715
$20-25	96,826	$71,112,000	$734
$25-30	53,217	$47,692,000	$896
$30-40	50,902	$56,427,000	$1109
$40-50	8727	$7,995,000	$916
$50-75	6776	$8,320,000	$1440
$75-100	149	$177,000	$1188
$100-200	-	-	–

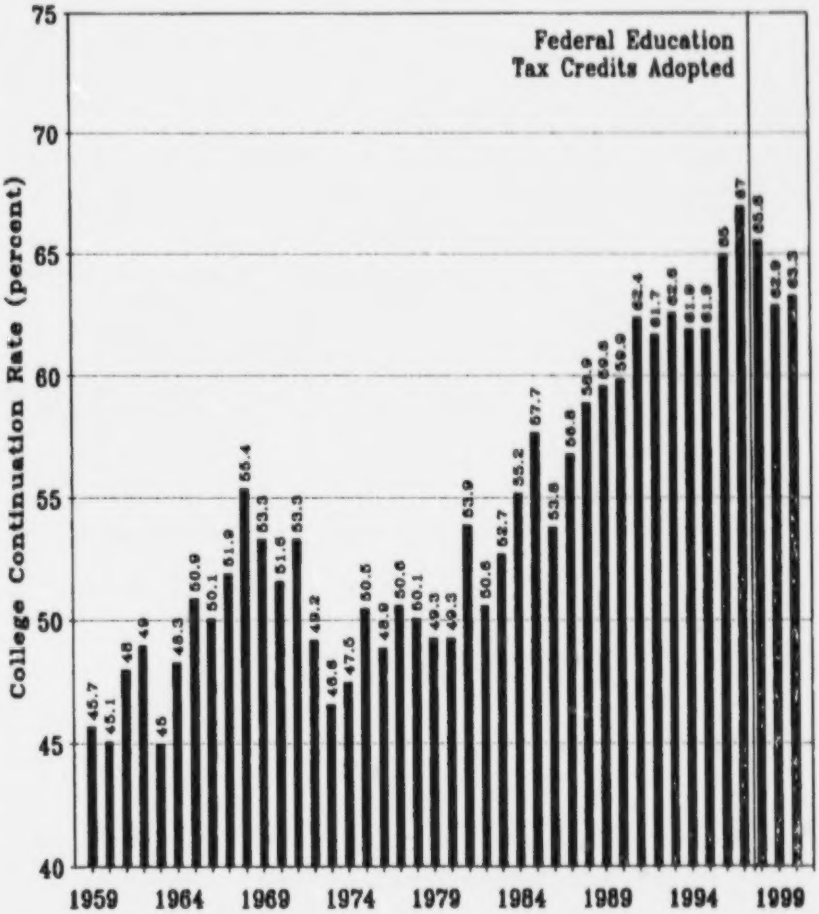
The proportion of tax returns that were taxable, and hence eligible for the education tax credits, was as follows:

Tax Filers

AGI(000)	All Returns	Taxable Returns	Percent Taxable
No AGI	-	-	--
$0-5	-	-	--
$5-10	185,998	32,951	17.7%
$10-15	321,341	162,028	50.4%
$15-20	354,291	262,925	74.2%
$20-25	308,742	211,916	68.6%
$25-30	338,931	285,714	84.3%
$30-40	616,107	565,205	91.7%
$40-50	587,167	578,440	98.5%
$50-75	1,196,887	1,181,865	99.5%
$75-100	753,125	752,976	100.0%
$100-200	-	-	--

Unfortunately for this analysis, the federal income tax returns of married couples (presumably parents of college students) and single persons (the college students themselves, or recent college graduates) are combined in this analysis. And like previously issued statements from the U.S. Department of Education, are highly misleading. Families with low adjusted gross incomes are not qualifying for federal education tax credits–it is single filers (students) with low incomes that are filing. And the federal income tax system like the financial aid system recognizes the different economic circumstances of families compared to single people. We hope that the Government Accounting Office study of federal education tax credits scheduled for release in August is able to separate tax filers into parents and students/recent college graduates.

College Continuation Rates
for Recent High School Graduates
1959 to 2000



Conclusion

From the very beginning, we have been troubled by the design of the federal education tax credits. Our concern was that this program directed resources toward people who did not need them, and denied these benefits to those who did need them. Our concerns were ignored, and now what we feared back in 1995 is gradually becoming apparent in the IRS data.

As the above chart clearly shows, college continuation rates for recent high school graduates did not increase after the Hope Scholarship and Lifetime Learning Tax Credits were adopted in 1997. In fact the college continuation rate dropped – very sharply--after these tax credits were adopted.

- The rate at which high school graduates were enrolled in college the fall following high school graduation stood at 67.0 percent in 1997, before the education credits became effective.
- In 1998, the first year that the federal education credits were available to families, the college continuation rate dropped to 65.6 percent.
- In 1999, the second year of the tax credit program, the college continuation rate dropped further, to 62.9 percent.
- The 2000 college continuation rate was 63.3 percent.

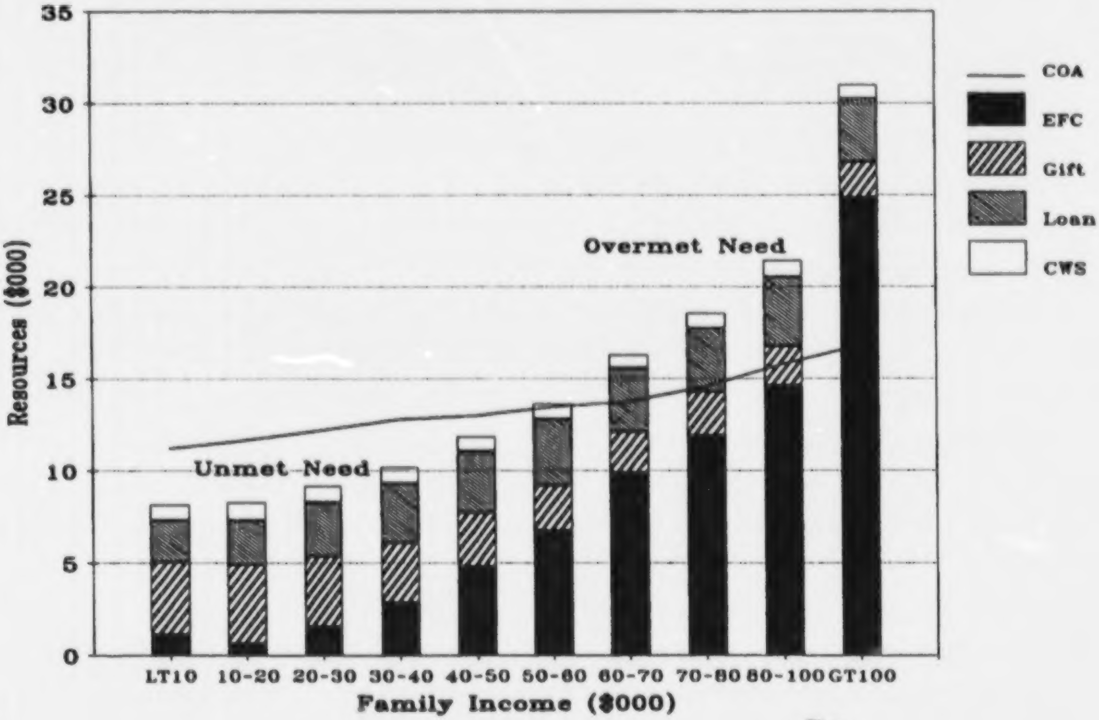
In other words there is no increased college access against which to attribute this tax expenditure to the federal budget. The $3.0 billion in federal education credits paid in 1998 and $4.1 billion paid in 1999 have gone to families that would have sent their children to college anyway. It did not get to those who needed it.

Given the clarity of the unmet financial needs of dependent students from family incomes below about $50,000 per year, the federal education tax credits are badly misdirected. As the chart on this page shows, in 1995-96 there was substantial unmet financial need for dependent undergraduates with incomes below about $50,000 per year. In 1995-96 this averaged about $3000. Preliminary data from the 1999 National Postsecondary Student Aid Study suggests this unmet need gap has grown to about $4000.

We believe there are far more effective allocation alternatives for these resources that would get them to students who demonstrate need for them. Like any investment, whether private or social, returns on investment must be carefully targeted to maximize returns on the dollars invested. We manage our own savings and retirement funds by this principle. The federal government must do the same.

This return on investment principle indicates that the federal education tax credit program should be abolished. This would free up about $4 billion per year which should be redirected into the Pell Grant program. $4 billion would fund a $1000 increase in the Pell Grant maximum award. Because the Pell Grant program is targeted on the bottom half of the family income distribution, this investment would produce more higher education opportunity benefits than has President Clinton's Hope Scholarship and Lifetime Learning federal income tax program.

Financing College Attendance Costs for Full-Time, Full-Year Aided Dependent Undergraduates 1995-96



Suicide Among 15 to 24 Year Olds by Gender 1940 to 1998

Male students have been floundering in the education pipeline for at least the last 30 years. By contrast female students have made extraordinary progress year-after-year at every stage in the education pipeline. This contrast between the educational progress and performance of young men and women is evident everywhere engagement in education is measured.

In this analysis we examine data on death rates by suicide for males and females between the ages of 15 and 24 years. We view suicide as a marker for the mental health of adolescent and young adults in the United States. *A priori*, because of the very different educational experiences of males and females over the last three decades, we would expect to see differences in suicide behaviors between males and females as well. And the suicide data show this.

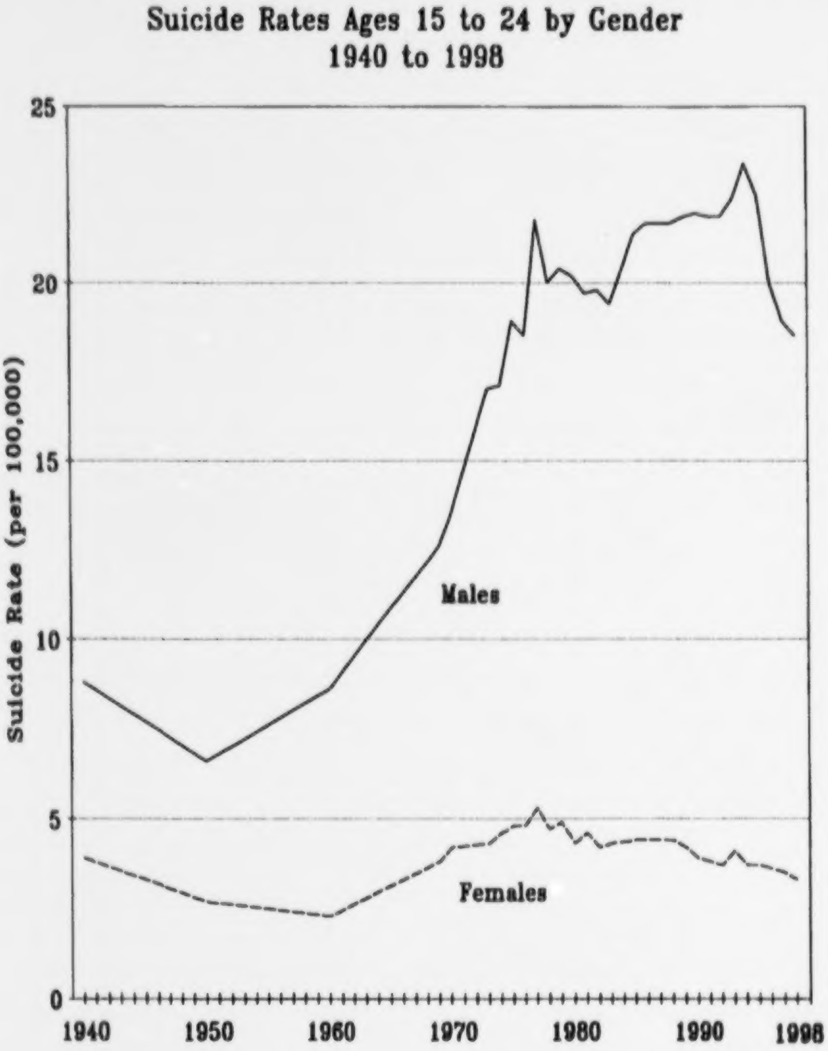
We have searched for other measures of the mental health of young men and young women that could corroborate these differing educational measures of progress and performance. Unfortunately, these independent measures of psychological and social health of young men and women are consistent with the educational engagement measures we monitor and report in OPPORTUNITY.

- Of all students in elementary and secondary education with disabilities, 69.3 percent of those with specific learning disabilities are boys, 59.0 percent of those with mental retardation are boys, and 79.4 percent of those with emotional disturbance are boys, according to the U.S. Department of Education.
- About two-thirds of secondary enrollment in special education are boys. The proportion of boys among special education students with learning disabilities is noticeably higher, at 73.4 percent. So too is the proportion of children that are emotionally disturbed--76.4 percent boys. In fact boys are a majority of those in all special education categories except for deaf/blindness, where boys are 49.5 percent, according the U.S. Department of Education.

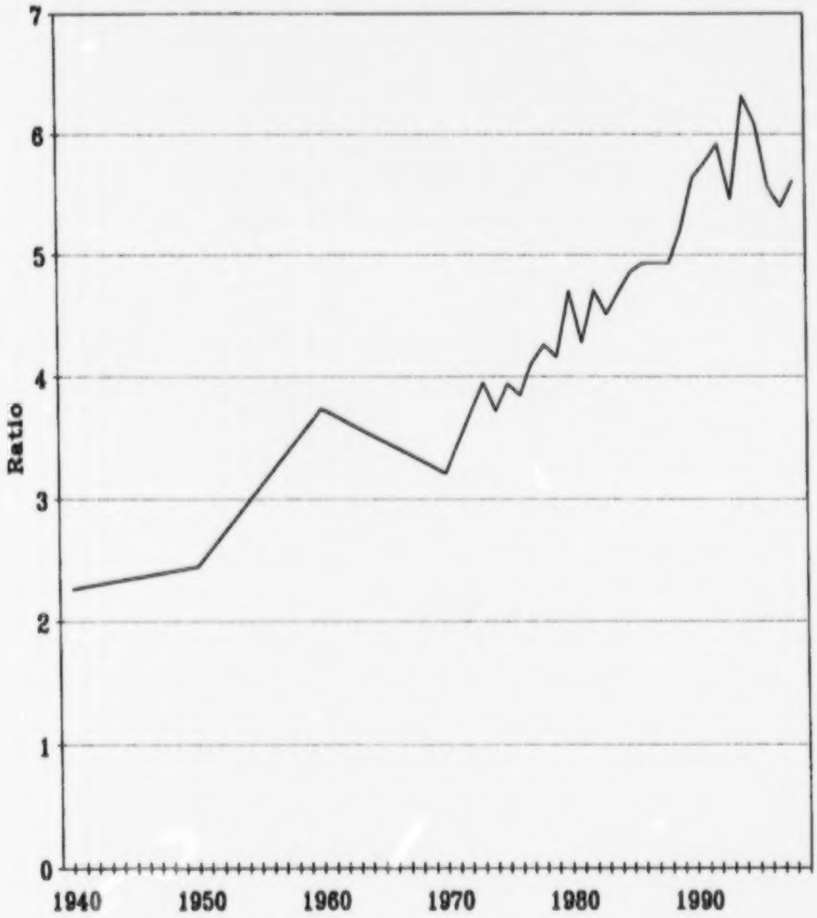
Here we examine another key marker of the mental health of young men and women--suicide. Suicide is defined as the act of killing oneself intentionally. Among young people suicide is often association with depression.

Suicide rates are measured as deaths per 100,000 population. Among the population 15 to 24 years, in 1998:

- The death rate by suicide was 11.1 per 100,000. Suicide was the third leading cause of death in this age



Ratio of Male to Female Suicide Rates
Ages 15 to 24 Years
1940 to 1998



group, following accidents (35.9 deaths per 100,000) and homicide (14.8), and leading cancer (4.6) and heart disease (2.8).

- The suicide rate was down from a peak of 13.8 in 1994.
- By gender, the suicide rate in 1998 was 18.5 for males and 3.3 for females. The male suicide rate was 5.6 times the rate for females in the 15 to 24 age range.
- In 1970 the male suicide rate was 13.5, compared to 4.2 for females. Males were then 3.2 times more likely than females to kill themselves.
- Between 1970 and 1998, the suicide rate for males increased by 37 percent, while the suicide rate for females decreased by 21 percent.

What our examination of the suicide rate data tell us reinforces our view of the education data that young males have been floundering for at least the last 30 years and that young females are doing better than they were 30 years ago. The data on suicide among 15 to 24 year olds appear to indicate that adolescent and young adult males know that they are in trouble. A growing share of these young males have found life's challenges so overwhelming that they have chosen to kill themselves.

The Data

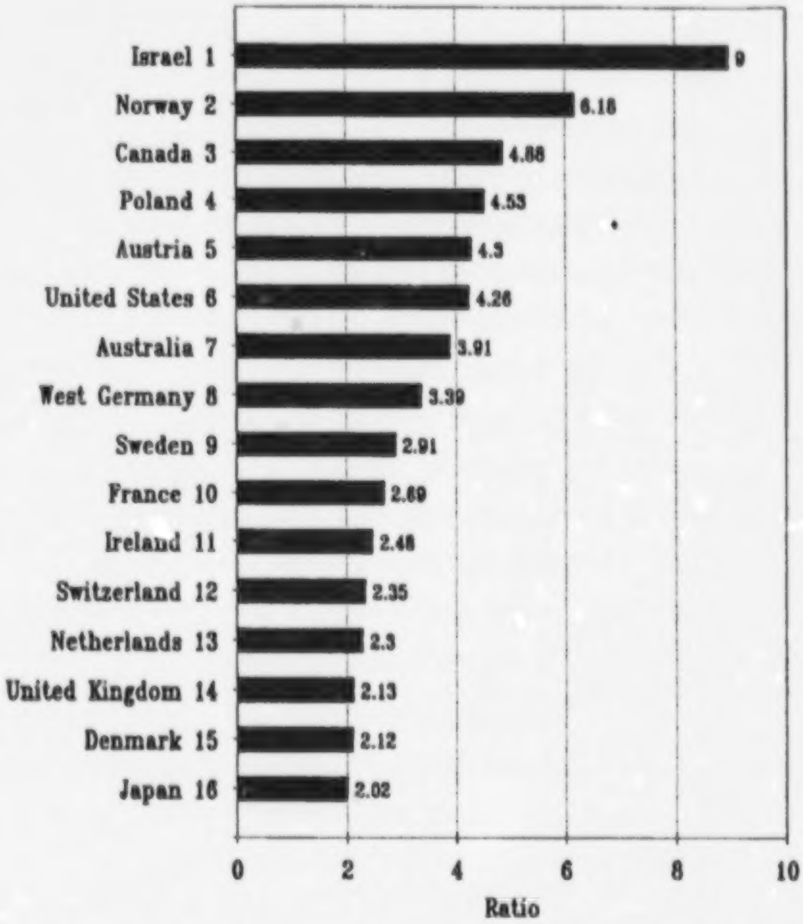
Most of the suicide data used in this analysis have been collected, tabulated and reported by the National Center for Health Statistics. These data appear in the annual publication *Vital Statistics in the United States* and other publications of the Center. We have used data reported in the *Statistical Abstract of the United States*.

Additionally we have used some international data on suicide that is collected by the World Health Organization and published in their annual report *World Health Statistics*.

Mainly our interest here is in the mental health of young males. These males have performed very poorly in the K-12 and higher education systems of the United States since about 1970. Our expectation is that the observed poor education performance should be reflected in suicide data for similarly aged males. The data are presented by gender to also measure the mental health of young females. Some data by race are also examined, and these data highlight a growing problem of suicide by black males, thus reflecting growing mental health problems in this community as well.

By no means is this brief analysis a treatise on suicide among adolescents and young adults. Our survey of Internet web sites finds many pages targeting this profoundly troubling problem. What this analysis does is simply describe suicide rate trends over time and patterns between males and females in the 15 to 24 age range. This analysis produces results that track painfully closely with observed trends and patterns in the education pipeline for men and women. As such suicide data are an independent marker confirming the plight of males in education, and the success of women.

Ratio of Male to Female Suicide Rates
Among 15 to 24 Year Olds in Selected Countries
1980



Suicide by ages 15 to 24

There is little suicide before age 15. Among those 5 to 14 years, the suicide rate is 0.9 per 100,000 population. In this age range the rate is 1.2 for boys and 0.4 for girls–boys are three times more likely to kill themselves than are girls.

But in adolescence, suicide becomes more prevalent. The rate rises to 11.1 per 100,000 among 15 to 24 year olds in 1998. The suicide rate rises further with age, to 14.6 between the ages of 25 to 44, and to 14.1 between 45 and 64 years. Over the last two decades, the suicide rate among 15 to 24 year olds has fluctuated between 11.1 (1998) and 13.8 (1994). In 1981 it stood at 12.3. The 1998 suicide rate is the lowest on record since 1981.

Gender

Young males are far more successful killing themselves than are young females. Females reportedly attempt more suicides than do males, but males are more successful at it, due in part to the more violent means used. In 1998 the male suicide rate for those 15 to 24 years old was 18.5 compared to 3.3 for females in the same age range. The male suicide rate was 5.6 times the rate for females in 1998.

There is comparable data on suicide rates for 15 to 24 year olds by gender since 1970, and less comparable but still useful data back to 1940. In 1970 the male suicide rate for 15 to 24 year olds was 13.5 (compared to 18.5 in 1998). Thus the male suicide rate rose by 37 percent between 1970 and 1998. During the same period, the suicide rate for 15 to 24 year old females declined from 4.2 to 3.3, or by 21 percent.

Prior to 1970–back to 1940–we have found suicide rates for males and females ages 15 to 24 by race, but not combined. Between 1940 and 1969 the suicide rate for white males 15 to 24 years rose from 8.8 to 12.6, and from 5.1 to 9.9 for black males in the same age range. For white females the suicide rate declined from 3.9 in 1940 to 3.8 in 1969. For black females the suicide rate increased from 3.3 to 4.1.

The ratio of white male to female suicide rates was 2.3 in 1940, 2.4 in 1950, 3.7 in 1960 and 3.3 in 1969. In the chart on page 13 we have used these ratios for 1940 through 1969. During these same years, the male to females suicide ratios for blacks were 1.5 in 1940, 3.1 in 1950, 3.5 in 1960 and 2.4 in 1969. Clearly, prior to the 1970s, the ratio of male to female suicide rates among 15 to 24 year olds was far lower than the ratios of the last two decades.

International Suicide Rates

The suicide rates among 15 to 24 years olds in the United States are not the highest in the world. The male suicides rates were higher in

Switzerland, Austria, Canada and Norway than they were in the U.S. in 1980, as shown in the chart on page 15. The suicide rates for females in this age range were higher in Switzerland, Japan, Denmark, Austria, Sweden, Canada, Germany and France than they were for females in the U.S. in 1980.

Because our main concern is with the mental health of young males, we have ranked the 16 countries reported by the World Health Organization on the male to female suicide rates for 15 to 24 year olds. Compared to females, young males are in more trouble in Israel, Norway, Canada, Poland and Austria than they are in the United States. However, the U.S. suicide ratio of males to females is still higher in the United States than it is in ten other countries.

Summary

This analysis began with a concern about the lack of educational progress by young males over the last 30 years. In contrast young females have made extraordinary educational progress--at the same time and in the same classrooms and families and communities that males are floundering in.

Other data point to the troubles young males encounter in the educational system, such as data from special education and self-reported activities of male college freshmen: partying, playing video games, watching TV, etc.

Yet the labor market demand for males with college educations is stronger than it has ever been. There is an obvious disconnect here. Young males should be focusing on school, making preparations for the rest of their lives at work, in families and in communities. Too many of them are not doing so.

The growth in male suicide rates for those 15 to 24 years old over the last three to four decades suggests young males understand the disconnect between their educations and their futures. While male suicide rates were increasing by 37 percent between 1970 and 1998, female suicide rates were declining by 21 percent. The contrast could not be clearer.

For the last three decades we have focused almost exclusively on women's issues in education. These data on suicide indicate that we should now give similar attention to the developmental needs, particularly in education, of young men.

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Postsecondary Education
OPPORTUNITY

The Environmental Scanning Research Letter of Opportunity for Postsecondary Education

Number 118 **www.postsecondary.org** **April 2002**

Higher Education Equity Indices by Race/Ethnicity and Gender 1940 to 2000

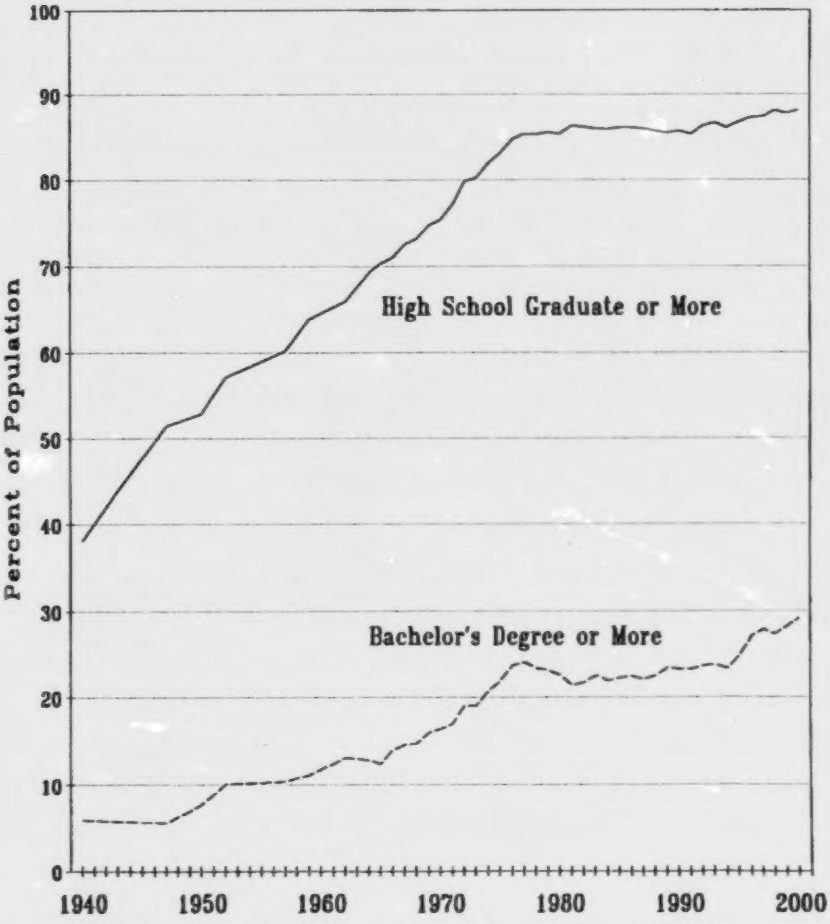
By 2000 the Census Bureau estimated that 88.1 percent of the population age 25 to 29 years was at least a high school graduate, and 29.1 percent had completed a bachelor's degree or more from college. Both percentages were the highest in records going back six decades.

Of course some groups in the population had higher high school graduation rates than did others. So too some groups were more likely to have completed a bachelor's degree than were other groups. This variability in educational attainment across population groups is the focus of this analysis.

Given the importance of educational attainment to private and social and economic welfare, who gets educated and who does not largely determines income and living standards later in adult life. Those who graduate from college have the greatest chances to prosper, and those who do not graduate from high school face the most certain prospects for a grim and brutal life in poverty. In the Human Capital Economy, educational attainment largely determines who succeeds and who fails in life.

Here we examine data collected by the Census Bureau between 1940 and 2000 on the educational attainment of populations in the 25 to 29 age range. In addition to the educational attainment of the entire population of 25 to 29 year olds, we are interested in groups within the total population, namely racial/ethnic groups and the genders. We are interested in the educational attainment of these groups compared to the whole population.

Persons Age 25 to 29 Years Who Have Completed High School or More and Bachelor's Degree or More 1940 to 2000



We measure this relative educational attainment with Equity Indices. These indices are simply ratios of the educational attainment for a specific population group to the educational attainment of the whole population for each year of available data for the years between 1940 and 2000. A population that is doing especially well compared to the population will have an Equity Index greater than 100. Another population that is doing relatively poorly would have an Equity Index of less than 100. So at 100 a group would be doing just as well as the entire population of 25 to 29 year olds.

Measured in this way, several population groups are doing very well. These include Asian men and women, and white women. But other groups are not doing well. These groups include Hispanic men and women, black men and women, and white men.

Moreover, when portrayed over the span from 1940 through 2000, the relative progress (or lack thereof) becomes apparent. The most extraordinary stories of educational progress, as measured by our Equity Indices, are for blacks and for women. While some groups have been floundering, these groups stand out by their relative educational progress.

In the following analysis we use the Census Bureau data to construct and report our High School Equity Indices (HSEI) and Higher Education Equity Indices (HEEI) mainly four six groups in the population:

- White males (since 1940)
- White females (since 1940)
- Black males (since 1940)
- Black females (since 1940)
- Hispanic males (since 1974)
- Hispanic females (since 1974)

Additionally, very recent Census Bureau changes in demographic reporting provide data on Asians and non-Hispanic whites and blacks.

The Data

Sources. All of the data used in this analysis were collected by the Census Bureau in either decennial or annual surveys of the population. The primary data source is the historical data Table A2 at:

http://www.census.gov/population/www/socdemo/educ-attn.htm.

In addition we have used some data from Table 1 of the March 2000 report on Educational Attainment (P20-536) available on the same Census Bureau web page.

Between decennial censuses, data on educational attainment are collected in the March Current Population Survey. This is a national sample of about 50,000 households. It is limited to the civilian, noninstitutional population of the United States. This limitation means that those living in military barracks and correctional institutions are not included in these data. For male populations, these exclusions are important to fully understanding data used in this analysis.

Definitions. These data span over 60 years, and thus definitions of data have changed or been adapted by Census to most accurately describe educational attainment of the changing population.

The first definition that has changed is educational attainment. Until the early 1990s educational attainment was measured as years of school completed, where 12 years implied high school graduation and four years of college implied having completed a bachelor's degree. Since the early 1990s the definition used is highest degree completed, which means high school diploma (or GED equivalent) or receipt of a bachelor's degree (regardless of how long it took to complete).

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Mission Statement

This research letter is founded on two fundamental beliefs. First, sound public social policy requires accurate, current, independent, and focused information on the human condition. Second, education is essential to the development of human potential and resources for both private and public benefit. Therefore, the purpose of this research letter is to inform those who formulate, fund, and administer public policy and programs about the condition of and influences that affect postsecondary education opportunity for all Americans.

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Note also that Census includes GED recipients with regular high diploma recipients as high school graduates.

The second major definition change concerns racial/ethnic categories. Included among these are:

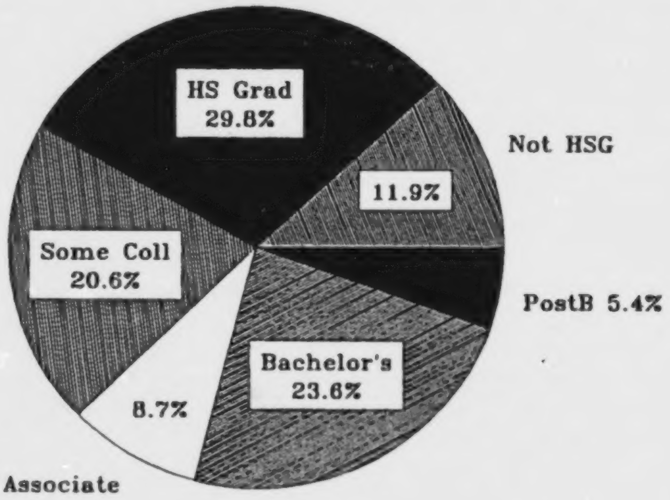
- The addition of Hispanics in 1974. Hispanics are an ethnic category--not racial--and are thus included in the racial groups and counted twice. About 95 percent of Hispanics are white, about five percent are black, and then there is always Tiger Woods to remind us of how difficult these categorizations are becoming.
- The data on blacks (formerly called Negroes by the Census Bureau) used here includes blacks and other races from 1940 through 1962. Since 1963 the data used are limited to blacks only. Note that some blacks may be Hispanic also.
- In the last two years Census has again changed the data it reports in racial/ethnic classifications. Formerly these classes were: white, black and Hispanic with Hispanics counted twice (in white and black counts). Now Census is reporting the mutually distinct (more or less) groups of non-Hispanic whites, non-Hispanic blacks, Hispanics and Asians.

The problem of categorizing and reporting populations in distinct racial/ethnic categories has grown so complex that Census is now using 57 distinct racial/ethnic groups to compile and report some of its demographic data. So far at least, the gender classifications remain at two.

Educational Attainment

This analysis is limited to the population between the ages of 25 and 29 years when people have completed most of their formal educations. In March of 2000, there were 18,268,000 people in this age range in the civilian, noninstitutional population. Of this total, 8,942,000 were male, 9,326,000 were female, 11,890,000 were non-Hispanic white, 2,402,000 were non-Hispanic black, 987,000 were Asian/Pacific Islanders, and 2,831,000 were Hispanic.

Educational Attainment
of the Population 25 to 29 Years
2000



Population: 18,268,000

The educational attainment of the total population of 25 to 29 year olds is shown in the pie chart on this page. Of the total, 88.1 percent were at least high school graduates (including GED recipients), 58.3 percent had at least some college, 37.7 percent had at least an associate's degree from college, 29.0 percent had at least a bachelor's degree, and 5.4 percent had an advanced degree from college.

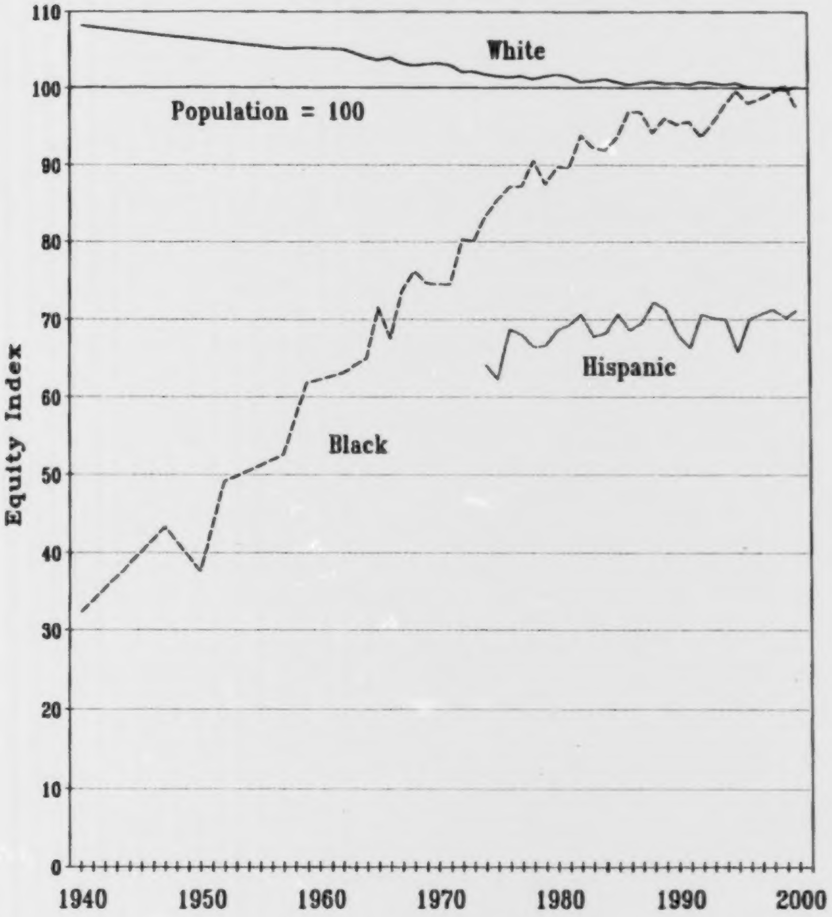
Of course educational attainment varies considerably across different population groups. In 2000 the proportion of each group in the civilian, non-institutional population that had completed a bachelor's degree or more from college by ages 25 to 29 years was as follows:

Non-Hispanic white males	32.3%
Non-Hispanic white females	35.8%
Non-Hispanic black males	18.4%
Non-Hispanic black females	17.4%
Asian/Pacific Islander males	55.2%
Asian/Pacific Islander females	52.8%
Hispanic males	8.3%
Hispanic females	11.0%

Higher Education Equity Index

For the population, 29.1 percent had completed at least a bachelor's degree. Using this as the reference, we have constructed a Higher Education Equity Index for each population group. This

High School Graduation Equity Index for 25 to 29 Year Olds by Race/Ethnicity 1940 to 2000



index is simply the ratio of the educational attainment measure of each population group to the same educational attainment measure for the complete population.

The Higher Education Equity Indices for the preceding population groups in 2000 were as follows:

Non-Hispanic white males	111.0
Non-Hispanic white females	123.0
Non-Hispanic black males	63.2
Non-Hispanic black females	59.8
Asian/Pacific Islander males	189.7
Asian/Pacific Islander females	181.4
Hispanic males	28.5
Hispanic females	37.8

Expressed another way, non-Hispanic white males were 111.0 percent as likely as a person from the population to have completed a bachelor's degree or more by ages 25 to 29 years.

At the extremes the disparities across groups are striking. Asian/Pacific Islanders are nearly twice as likely as the population to have a bachelor's degree or more from college. Hispanics, on the other hand, are only about a third as likely as the population to have a bachelor's degree or more by the ages of 25 to 29 years.

High School Graduation Equity Indices

To get at very long term trends in equity of educational attainment, some modest compromises on racial/ethnic definitions used above are required. (Gender classifications do not change, at least yet.) In the following analyses, the racial/ethnic categories that remain fairly consistently defined are:

- *White.* This includes Hispanics who are about 95 percent white. Note that as the Hispanic share of the population has grown over the last 25 years, their educational attainment exerts a growing influence on the educational attainment of whites.
- *Blacks.* From 1940 through 1962, the data for blacks includes blacks and other races. Since 1963 the data are for blacks only, including Hispanic blacks.

The High School Graduation Equity Indices for whites, blacks and Hispanics over the six decades from 1940 through 2000 are shown in the chart on this page. Each group shows unique trends over this time series.

- *Whites.* The high school equity index for whites has declined from 108.1 in 1940 to a low of 99.8 in 1999 and 100.2 in 2000. The decline has been continuous over the last 60 years. In 1999, for the first and only time, whites were less likely to be high school graduates between the ages of 25 and 29 years than was the population.
- *Blacks.* The high school equity index for blacks has grown from 32.3 in 1940 to a peak of 100.5 in 1999, and stood at 97.5 in 2000. Of the three racial/ethnic groups, only blacks have improved their high school graduation prospects relative to the population, and the

improvement has been no less than spectacular. By 1999 for the first and only year, blacks between 25 and 29 years were more likely than whites or the population to be high school graduates or equivalents.

- *Hispanics*. The high school equity index for Hispanics started at 64.1 in 1974 and stands at 71.3 in 2000. This equity index has hovered around 70 since the early 1980s, thus indicating both a relatively very low high school graduation rate and lack of educational progress during the last two decades.

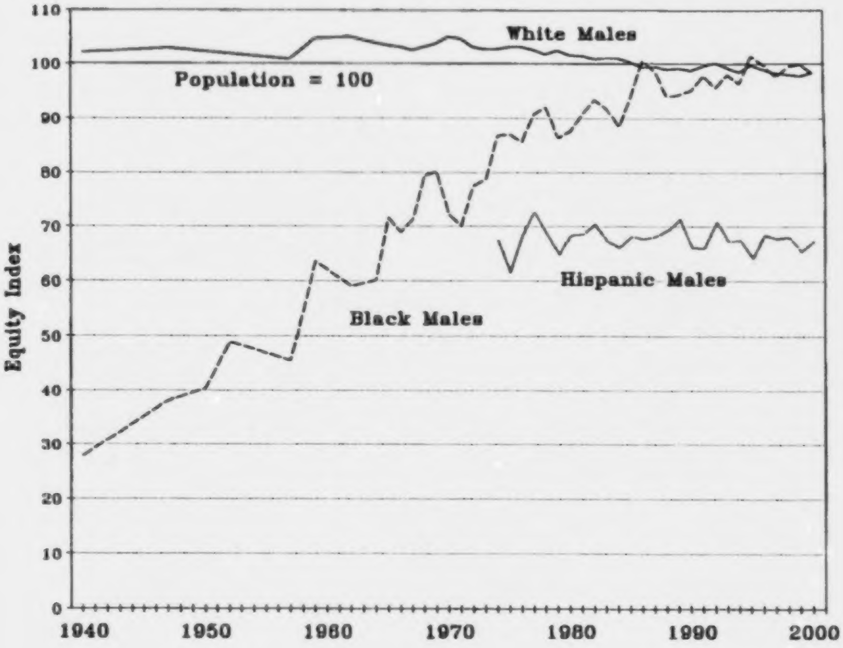
The charts on this page further break down of the racial/ethnic data by gender. The top chart shows high school graduation equity indices for white, black and Hispanic males ages 25 to 29 years. Again the equity index is calculated by dividing the high school graduation rate for males of each racial/ethnic group by the high school graduation rate for the population.

The resulting trends are similar to those on the preceding page, with some subtle but important differences.

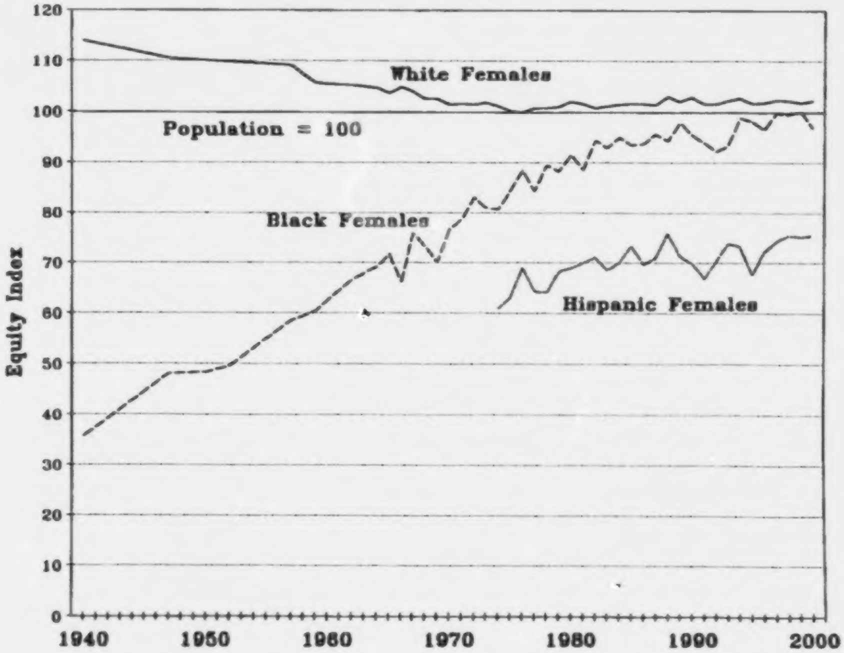
- For white males the high school graduation equity indices were above 100 through 1985, and have since fallen below that level. By 2000 white males had graduation rates at 98.3 percent of the population, and were continuing to decline.
- Black males have made all of the progress made by males. In 1940 black males had a high school equity index of 28.8. By 2000 it had risen to 98.3. (Note that this is limited to the civilian, non-institutional population of black males.)
- Hispanic males have made no progress since 1974. The high school equity index stood at 67.3 in 1974, and by 2000 stood at 67.2.

For females the basic trends hold, but

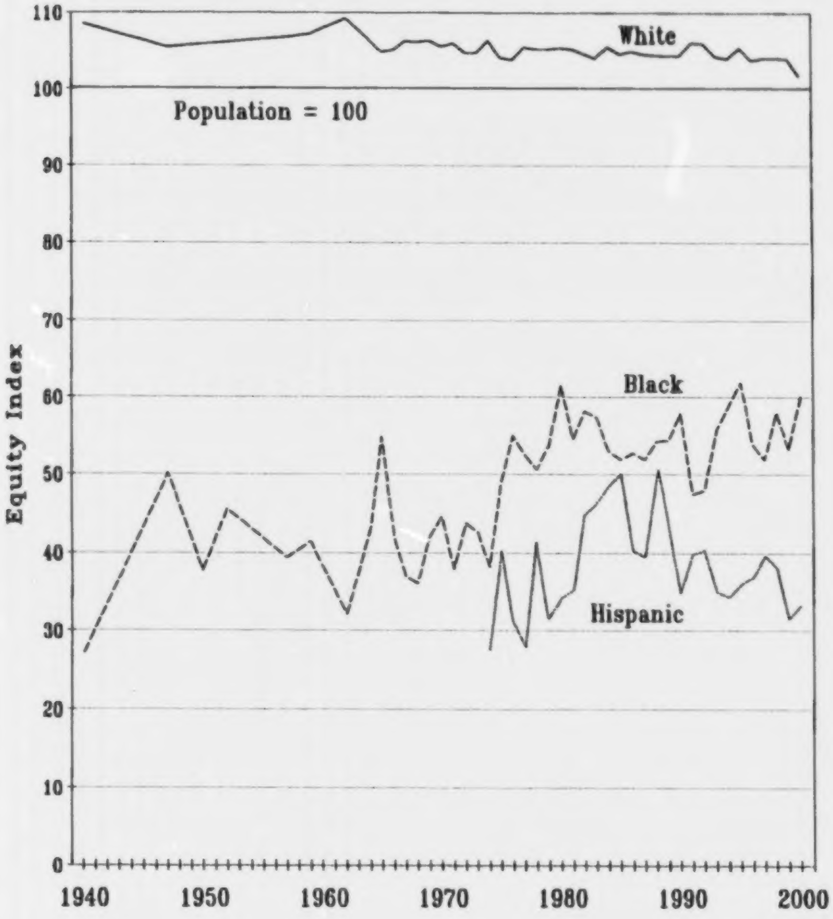
High School Graduation Equity Index
for 25 to 29 Year Old Males by Race/Ethnicity
1940 to 2000



High School Graduation Equity Index
for 25 to 29 Year Old Females by Race/Ethnicity
1940 to 2000



Bachelor's Degree Equity Index
for 25 to 29 Year Olds by Race/Ethnicity
1940 to 2000



are stronger for each racial/ethnic group.

- While the high school equity index for white females has declined from 113.9 in 1940 to a low of 99.9 in 1976, it has since risen to 102.2 by 2000.
- For black females, the high school equity index has risen from 35.7 in 1940 to a peak of 100.9 in 1999, and in 2000 stood at 96.8. The stunning gains by black males have been paralleled by black females.
- Hispanic females have also shown significant gains. The high school equity index has risen from 60.9 in 1974 to a record 75.4 by 2000.

At high school graduation, the largest gains have been made by black males and females. Hispanic females have also made significant gains. At the other extreme; both male and female whites have lost most of their historical advantage compared to the population, although a portion of this erosion is attributable to the growth in Hispanics in the white population.

Bachelor's Degree Equity Index

The chart on this page shows the higher education equity indices for 25 to 29 year olds for the three racial/ethnic groups between 1940 and 2000.

For all of the last 60 years, the index for whites has remained above 100. That is, whites between the ages of 25 and 29 have always been more likely than the population to have completed a bachelor's degree from college. In 1940 this index was 108.5. After the early 1960s, this advantage began to erode and by 2000 stood at 101.7, the smallest advantage on record. (Remember that the white data include a growing share of Hispanics whose bachelor's degree attainment falls far below those of whites.)

Over the last 60 years the higher education equity index for blacks has more than doubled, from 27.1 in 1940, to 60.1 by 2000. The extraordinary gains in high school graduation by blacks have been extended into higher education as well, although the near parity achieved in high school graduation has not been achieved in college graduation--yet.

Hispanics made significant gains in their higher education equity indexes between 1974 (27.5) and 1988 (50.7). However, since 1988 this index has since slipped back to 33.3 by 2000.

The charts on the following page further disaggregate these indices for males and females by race/ethnicity.

The first chart, for males, shows distinct trends in the higher education equity indices for those 25 to 29 years.

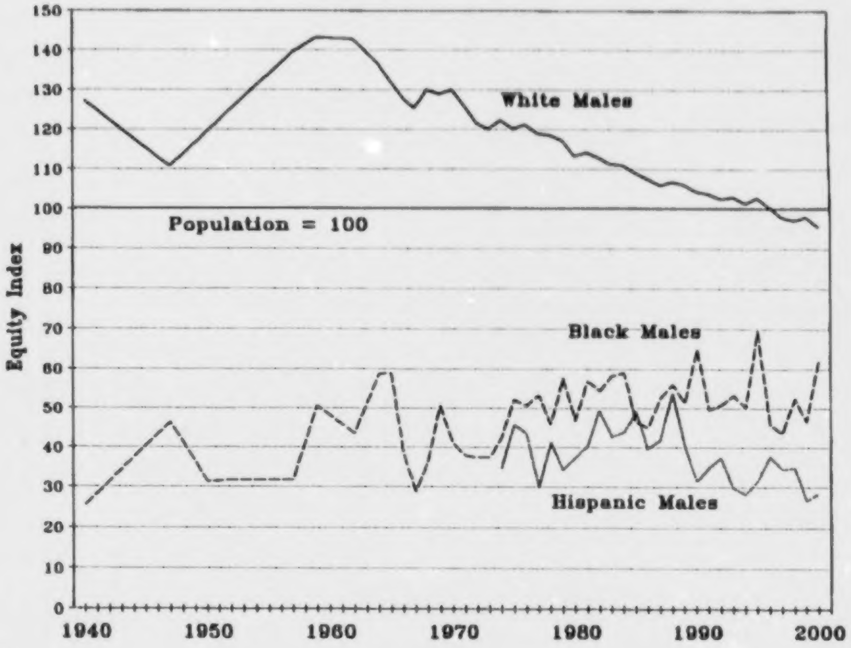
- For white males, the enormous advantage reached by the early 1960s has been completely erased by the late 1990s. Forty years ago white males were about 143 percent as likely as the population to have completed a bachelor's degree or more from college. By 2000 the higher education equity index for white males stood at 95.5 after four decades of continuous decline. Mainly because of the gains of white females and black males and females, the male index is now below 100.

- Black males, on the other hand, have made significant progress. The higher education equity index for black males has increased from 25.4 in 1940 to 62.2 by 2000. While this is still well below the index for white males, the fact of steady and substantial progress for black males stands in stark contrast to the steady and substantial decline for white males during the same period of time.
- Hispanic males made progress between 1974 and 1988, but have lost this progress and more by 2000. The higher education equity index for Hispanic males increased from 34.8 in 1974, to a peak of 53.8 in 1988, then declined to 28.5 by 2000.

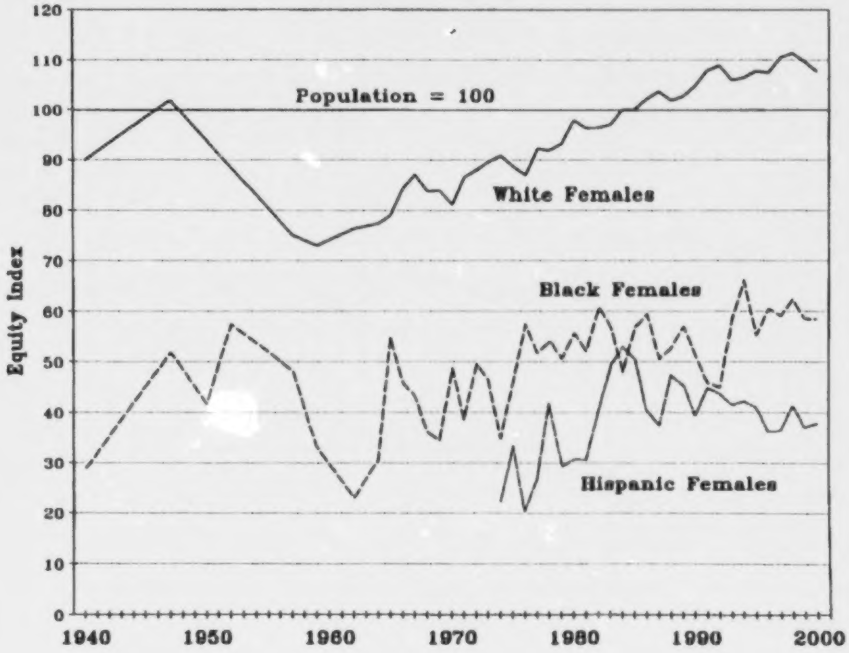
For females, especially white females, a quite different picture emerges over the last sixty years.

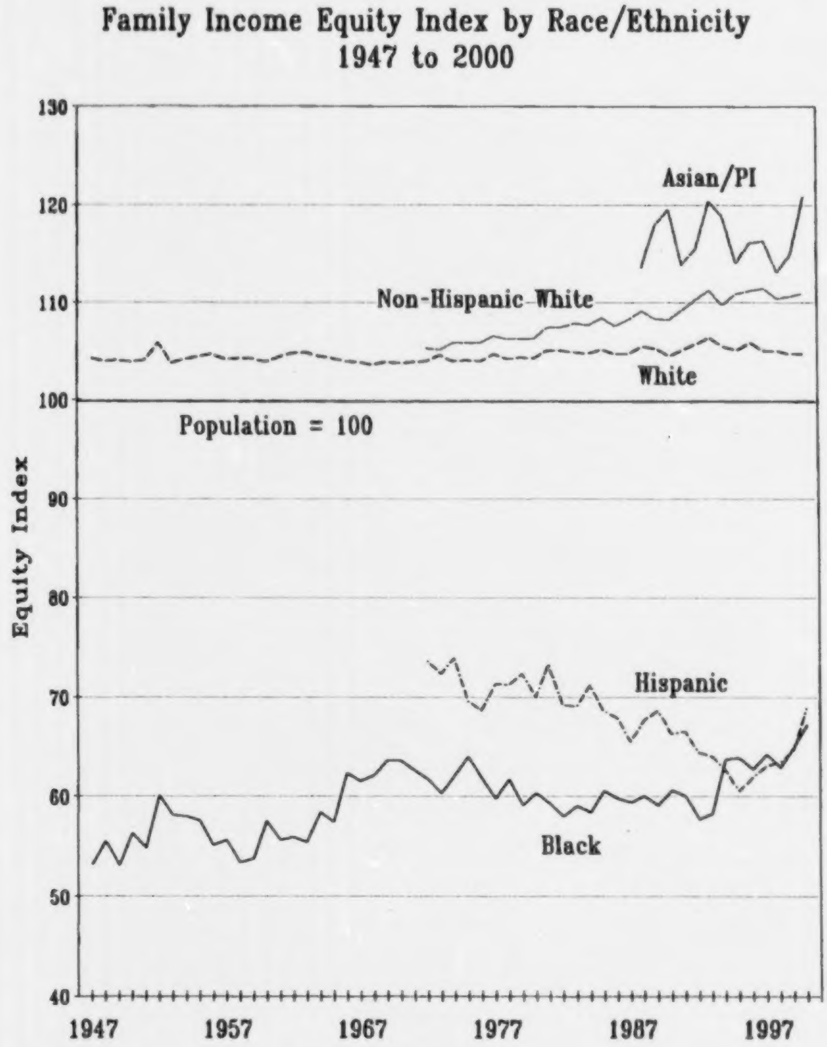
- White females have seen steady and substantial gains in their higher education equity index over the last 40 years. From a low of 73.0 in 1959, this index rose to a peak of 111.4 in 1998, and by 2000 stood at 107.6. This index reached 100 in 1984 when women were as likely as the population to have at least a bachelor's degree by age 25 to 29 years.
- Black females too have made steady and substantial progress over the last four decades. Their higher education equity index reached a low of 22.9 in 1962, then rose to a peak of 66.1 in 1994. By 2000 it stood at 58.4.
- Hispanic females made significant progress between 1974 and 1984, but have since lost most of those gains. Their higher education equity index rose from 22.2 in 1974 to a peak of 53.0 in 1984. In

Bachelor's Degree Equity Index
for 25 to 29 Year Old Males by Race/Ethnicity
1940 to 2000



Bachelor's Degree Equity Index
for 25 to 29 Year Old Females by Race/Ethnicity
1940 to 2000





2000 their equity score was 37.8.

Summary

Of the six population groups studied here, only white females had higher education equity index scores greater than 100 in 2000. White females were the only group more likely than the population to have completed at least a bachelor's degree by age 25 to 29 years.

Each of the other five population groups had scores less than 100, and were less likely than the population to hold at least a bachelor's degree by ages 25 to 29 years. In 2000 the higher education Equity Indexes for these groups were:

white males	95.5
black males	62.2
black females	58.4
Hispanic males	28.5
Hispanic females	37.8

Another way of looking at these data is in terms of progress. Here the list of those groups whose higher education equity indices have been increasing includes, in addition to white females, black males and females. Over the last three to four decades, each of these groups have made substantial progress in bachelor's degree attainment relative to the population.

Three groups have not made progress. These include white males, and Hispanic males and females. The extraordinary advantage white males once held has been completely erased and they are now at a slight disadvantage relative to the population.

Far more serious is the huge disadvantage of Hispanics. The higher education equity indices for Hispanic men and women ages 25 to 29 years is far lower than for any other group. Moreover, for both men and women, the indices have been declining--getting worse--since the mid-1980s. By any measure, Hispanics are in serious trouble in the terms of getting the college education they need to succeed in the Human Capital Economy of the United States.

Implications

The higher education equity indices have clear and pressing meaning for private and economic welfare. As data presented in past issues of OPPORTUNITY have persistently and consistently reported, more education is key to economic welfare. Those who have the most education are most successfully engaged in the rich opportunities available in the American economy. Those with the least formal education are also the most disengaged from these opportunities.

The above relationship between educational attainment and economic welfare holds for individuals, families and households, cities, states and the country as a whole. Here we show how educational attainment is related to broad measures of economic welfare for racial/ethnic groups as well. Moreover, those racial/ethnic groups that have made the most progress in educational attainment have also made the greatest economic progress.

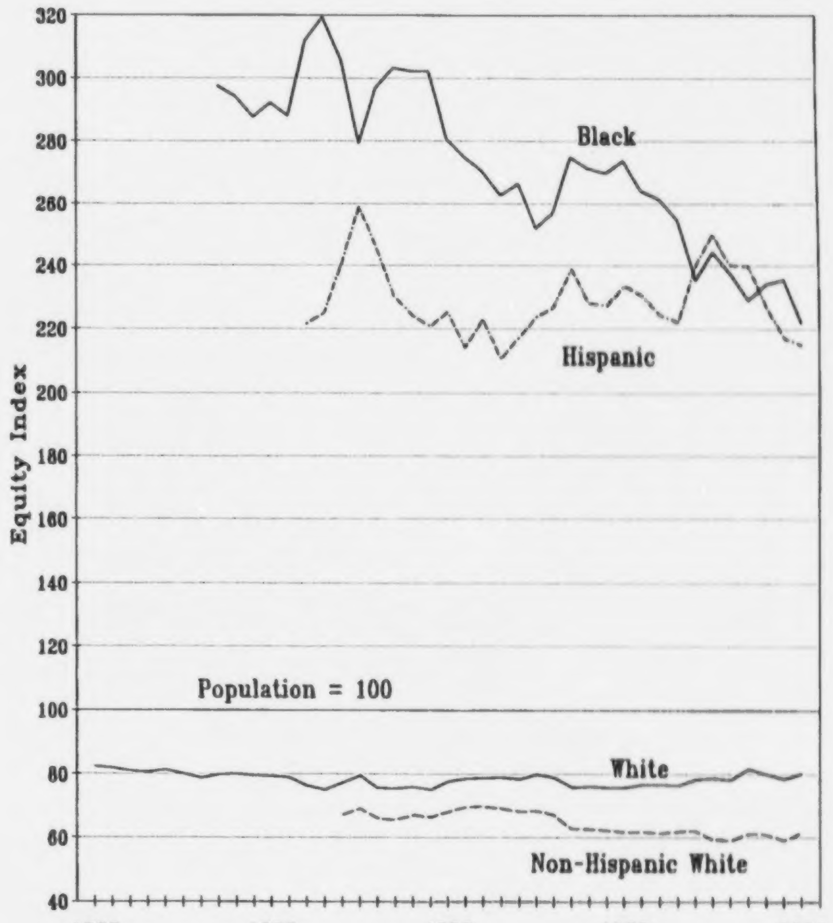
Family income. The chart on the previous page shows median family income equity indices for the major racial/ethnic groups since 1947. These equity indices have been constructed in the same manner that high school and bachelor's degree equity indices were constructed. The family income equity indices are the ratios of the median family income for each racial/ethnic group and year to the median family income for the population of families in the same year. The median family income data are available from the Census Bureau's website at:

http://www.census.gov/hhes/income/histinc/f05.htm

What these data show is that Asian/Pacific Islander, non-Hispanic white and white families have median family incomes well above that of the population. These groups also have the most educational attainment. Similarly, Hispanic and black median family incomes are well below the median for the population, and these groups are least likely to have college educations.

Over time, median family income equity indices have been rising for Asians, non-Hispanic whites, whites and blacks, along with their higher education equity indices. Tragically, the family income equity index for Hispanic families has been declining, along with their high education equity index. The relationship between educational attainment, particularly collegiate education, and median family income is strong and has been strengthening over the last five decades.

Poverty Equity Index by Race/Ethnicity
1960 to 2000



Poverty. A second broad measure of economic welfare is poverty, measured by poverty rates. We have again constructed poverty equity indices in the manner used throughout this analysis: the ratio of poverty rates for racial/ethnic groups to the poverty rate for the population for each year of available data. We have used Census Bureau data on poverty rates for families by the major racial/ethnic groups posted on the Bureau's website at:

http://www.census.gov/hhes/poverty/histpov/histpov4.htm

The story told be these data gets repetitious: poverty rates are highest among those with least formal education, and lowest among those with the most education. Moreover, the poverty equity indices have declined for those whose educational attainment has increased (non-Hispanic whites and blacks), and have not improved relative to the population for those whose higher education equity indices have not improved (Hispanics).

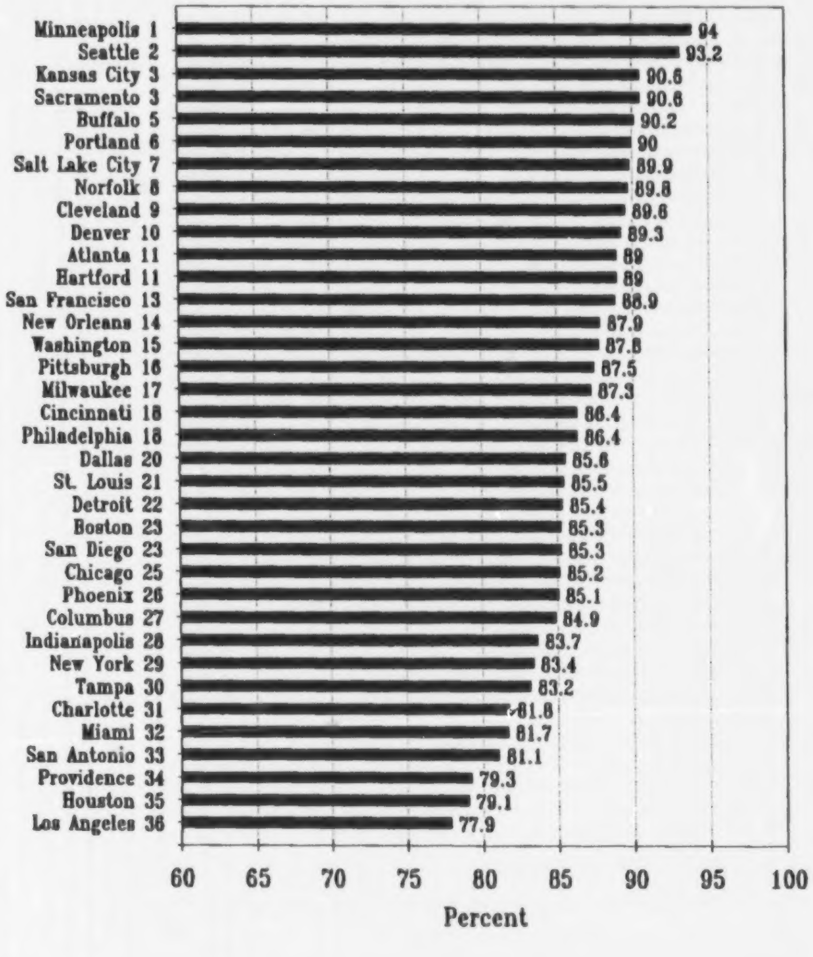
The link between education and economic welfare appears to be most clearly understood by Asians, non-Hispanic whites and blacks. These data indicate that Hispanics understand this message least well.

Metropolitan Area Educational Attainment and Economic Welfare
1989 to 2000

For individuals, more education leads to more income and higher living standards.

- We have demonstrated this for males, females, whites, blacks, Hispanics, American Indians, Asian/Pacific Islanders, young adults, middle age adults, and old adults.
- We have demonstrated this relationship for households and families.
- We have demonstrated this relationship for each racial/ethnic group (see previous analysis).
- We have demonstrated this relationship for the states: more education leads to greater economic strength and vitality.
- We have demonstrated this relationship for the country in terms of personal income and federal income taxes paid.

High School Graduates or More Among Population Age 25 and Over in Metropolitan Areas 2000



Here we examine this relationship between educational attainment and economic welfare for American metropolitan areas, our greater cities, where most of us live and work. We examine the educational attainment of population age 25 years and over in America's urban areas. We relate this to various economic welfare measures of those same areas.

Not surprisingly, our analysis finds that metropolitan areas with greater concentrations of better educated adults are better off than are other metropolitan areas with less well educated adult populations. The cities with a greater share of college educated adults tend to have higher per capita personal incomes, lower unemployment, lower poverty and higher average annual pay. Not coincidentally, these cities also tend to have greater concentrations of physicians and lower infant mortality rates. If we could have found data to more broadly measure human welfare, we are quite certain that metropolitan areas with concentrations of well-educated adults would be seen to having generally higher living standards than do other cities with poorly educated adults.

Our analysis of available data follows the same old boring paths to the same inevitable findings and conclusions that our many previously analyses have clearly shown: We are better off with more education than we are with less.

It should not be necessary to repeat this finding again (and again, and again). But in the current environment with states reducing their key investments in the education of young people in K-12 education and colleges, it is once again necessary to repeat this obvious fact of life. This is the Human Capital Economy. Economic welfare in every dimension of our existence is bound to the educational attainment of the workforce. Those who get postsecondary education will likely succeed, and those who do not cannot succeed. This is true for every way we count ourselves: individually, by gender or race/ethnicity or age, in households and families, in states and the nation. And as we show here, in our cities too.

The Data

This analysis correlates two kinds of data: educational attainment of metropolitan areas with various economic welfare measures of those cities.

Data sources. The data on educational attainment of metropolitan areas has been collected and reported by the Census Bureau from the Current Population Survey since 1989. These data have been reported in the P20 series of Current Population Reports on educational attainment. These reports are available for downloading from the Census Bureau's website at:

http://www.census.gov/population/www/socdemo/educ-attn.htm

From the 2000 report on educational attainment, we have used data from Tables 15 and 16. These tables report estimates of the proportion of the population of each metropolitan area age 25 and over that has completed high school or more (including GED), and bachelor's degree or more from college.

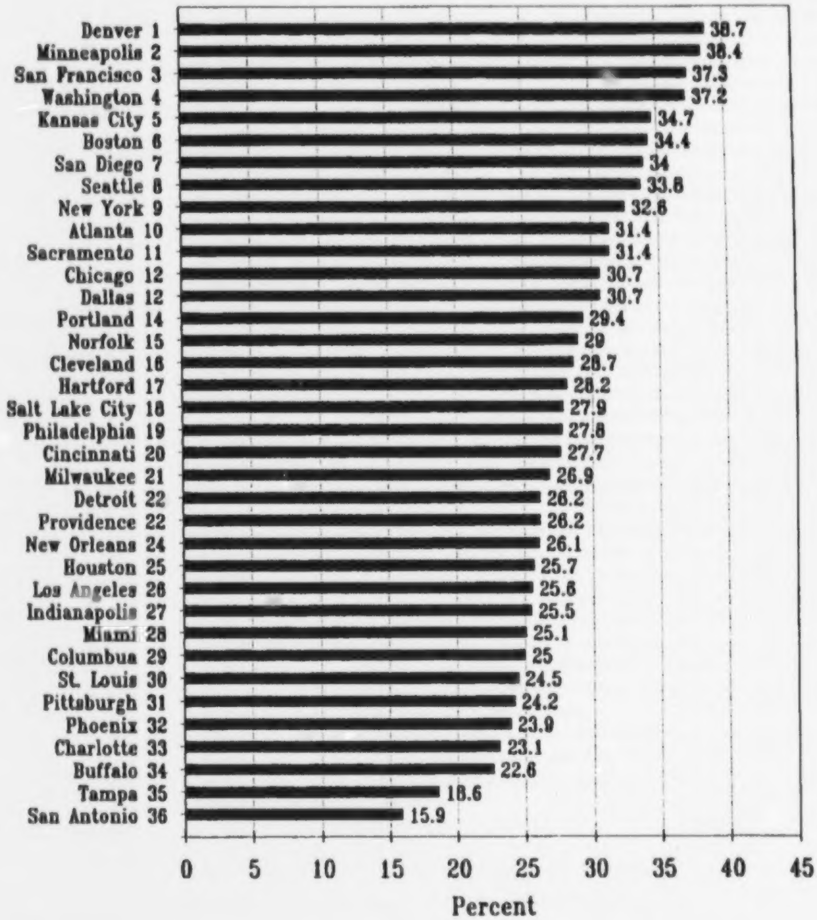
We report the former in the chart on the previous page, but our reported analysis is limited to the population of metropolitan areas that have completed a bachelor's degree or more from college.

The economic measures of the population in these metropolitan areas are reported in several places as noted in the following text.

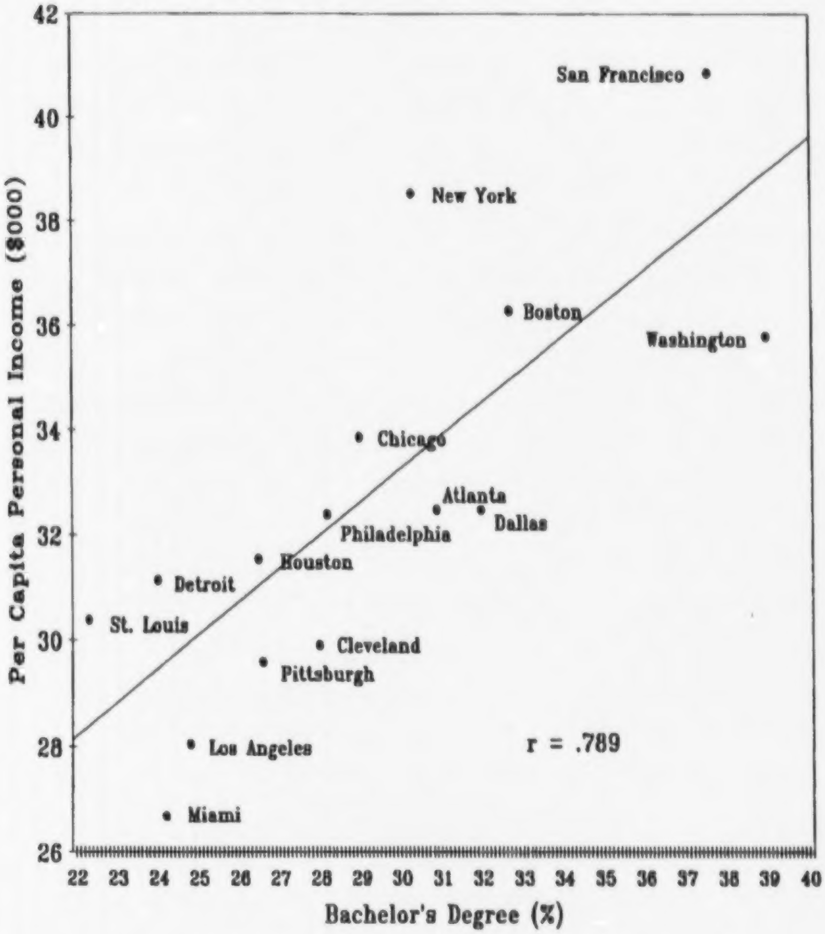
Data definitions. This analysis has wrestled with the problem of defining and redefining metropolitan areas and finding appropriate data for each. Moreover, these areas were redefined during the period under study here.

Metropolitan areas are defined by the U.S. Office of Management and Budget (OMB). Metropolitan areas are core areas containing a large population nucleus, together with adjacent communities having a high degree of economic and social integration with that core. Metropolitan areas include metropolitan statistical areas (MSAs), consolidated metropolitan statistical areas (CMSAs), and primary metropolitan statistical areas (PMSAs). Generally these are defined by counties, except in New England. Our analysis uses only the broadest definition of metropolitan areas.

Bachelor's Degree or More Among Population Age 25 and Over in Metropolitan Areas 2000



Metropolitan Area Per Capita Personal Income by Proportion of Population Age 25 and Over with Bachelor's Degree or More, 1999



Unlike states that have fixed boundaries, metropolitan areas grow. Thus, over time metropolitan areas change, and were last redefined by OMB in 1999. Thus, the earlier definitions of metropolitan areas used in this analysis may differ from those in the last two years.

As of 1998, the population of metropolitan areas totaled 216.5 million, or 80 percent of the U.S. population. These metropolitan areas occupied 705,668 square miles, or 20 percent of the land area of the United States.

Educational Attainment

In March of 2000, there were 147.4 million people in the United States age 25 and over that were at least high school graduates. This was 84.1 percent of the population in this age group.

Across the 36 metropolitan areas of the United States, this percentage ranged from a low of 77.9 percent in **Los Angeles** to a high of 94.0 percent in **Minneapolis**. Only nine of the 36 cities had smaller shares of high school graduates in their adult populations than the national average. These data are shown in the chart on page 10.

In 2000 there were 44.8 million people age 25 and over that had completed at least a bachelor's degree, or 25.6 percent of this population.

Across the 36 metropolitan areas the proportion of those 25 and over with at least a bachelor's degree ranged from a low of 15.9 percent in **San Antonio** to a high of 38.7 percent in **Denver**. Only 10 of the 36 metropolitan areas had smaller portions of adults with bachelor's degrees than the nation. These data are shown in the chart on page 11.

Economic Correlates

Because of the difficulty in obtaining appropriate economic measures for each metropolitan area, the following analysis is limited to the fifteen largest metropolitan areas. These areas, and their 2000 population age 25 years and over, are:

New York	13,406,000
Los Angeles	9,754,000
Chicago	5,274,000
Washington	4,938,000
San Francisco	4,759,000
Philadelphia	4,015,000
Boston	3,823,000
Detroit	3,623,000
Dallas	3,251,000
Houston	2,786,000
Atlanta	2,620,000
Miami	2,495,000
Cleveland	2,020,000
St. Louis	1,683,000
Pittsburgh	1,537,000

These fifteen metropolitan areas held 66 million people, or about 38 percent of the U.S. population age 25 years and over.

Per capita personal income. This is the total personal income for a metropolitan area divided by its population. These data are available

for downloading from the website of the Bureau of Economic Analysis at:
http://www.bea.gov/bea/regional/reis

In 1999 per capita personal income among the 15 metropolitan areas in our study ranged from a low of $26,682 in Miami to $40,858 in San Francisco. The average for these cities was $32,666.

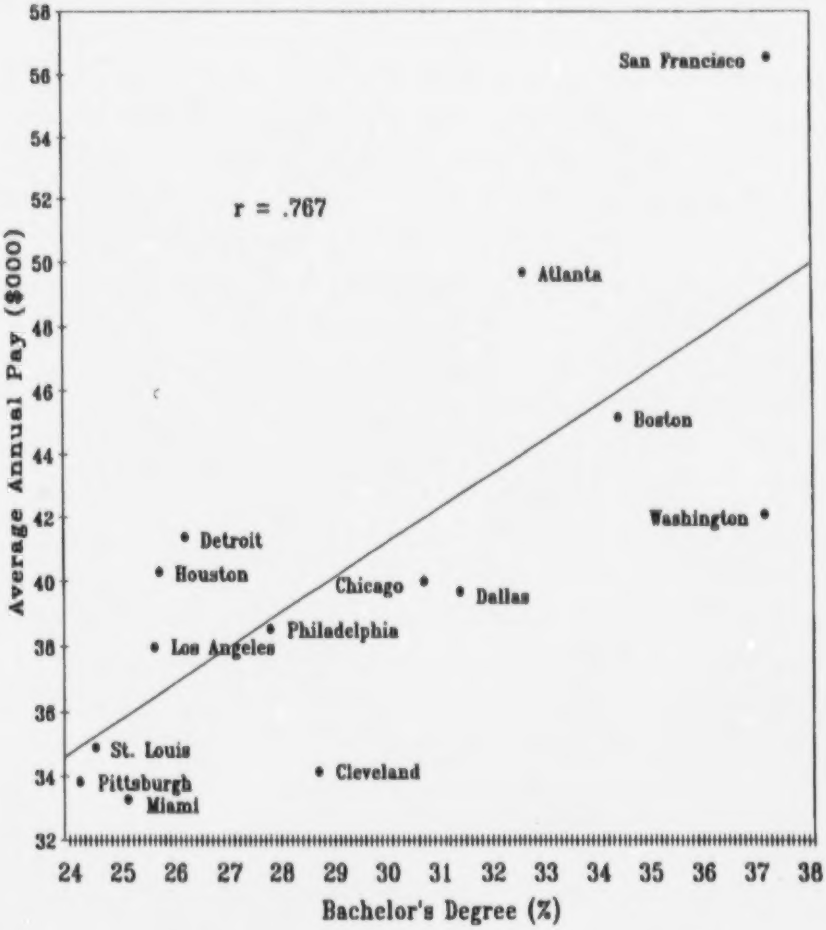
The relationship between educational attainment and per capita personal income in cities is shown in the chart on page 12. Among these 15 metropolitan areas, income tends to rise with educational attainment. As the proportion of a metro areas population age 25 and over with a bachelor's degree or more from college increases, so too does per capita personal income. In 1999 the correlation was +0.789. This chart also plots the linear regression line through these 15 cases.

Per capita personal income for metropolitan areas is the most consistent economic data we have found for metropolitan areas. For the years where we have both educational attainment and per capita personal income data, the correlations between the two for the fifteen largest metropolitan areas are:

1989	+0.682
1991	+0.620
1993	+0.630
1994	+0.638
1995	+0.670
1999	+0.789

These data suggest that the relationship between educational attainment and per capita personal income in these 15 metropolitan areas probably strengthened during the 1990s. Our previous analysis of state data found this to be true.

Metropolitan Area Average Annual Pay by Proportion of Population Age 25 and Over with Bachelor's Degree or More, 2000



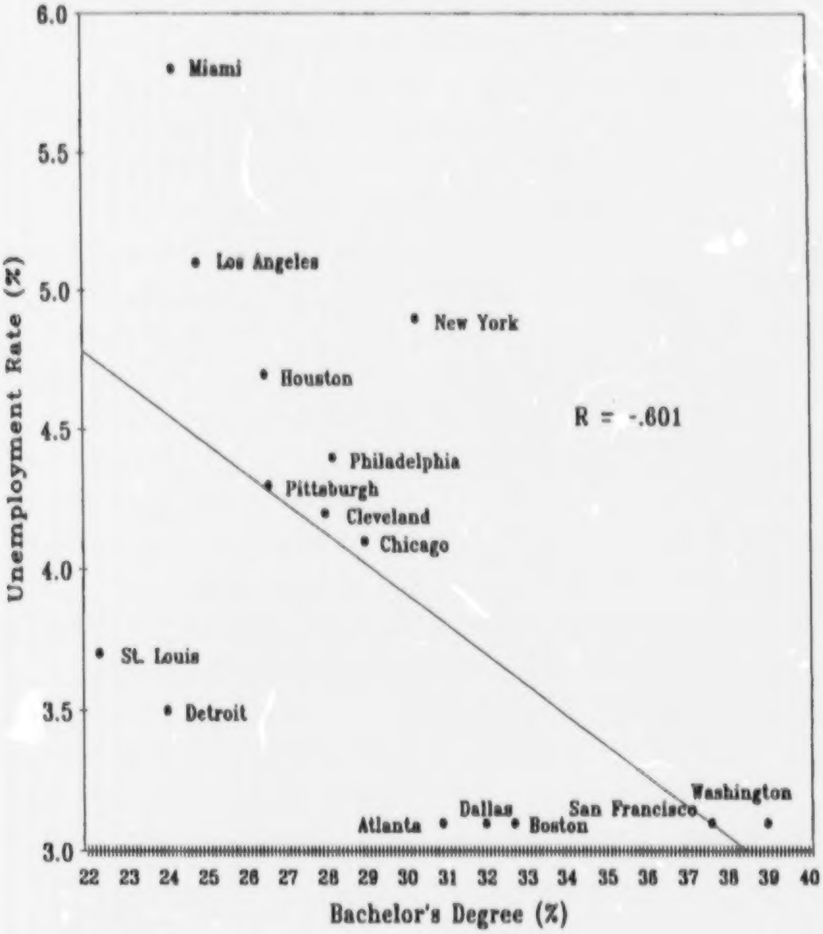
Average annual pay. The chart on this page shows average annual pay for all workers for 2000 (preliminary data). The average for all workers was $40,561. Across these 15 metropolitan areas, the average annual pay ranged from $33,290 in Miami to $56,561 in San Francisco. (Note that these two cities were at the extremes on per capita personal income as well.)

In 2000 the correlation between the proportion of those 25 and over with at least a bachelor's degree and average annual pay was +0.767. In 1999 (the only other year for which we could find these data) the correlations was +0.637.

In our previous analyses of educational attainment and economic welfare measures in the states, income proved to have the strongest correlations with college education. Thus these findings are quite similar to those for other studies.

Unemployment rate. The unemployment rate in metropolitan areas has a strong *negative* relationship with educational attainment, as shown in the chart on page 14. As the proportion of a metropolitan area's population age 25 and over with at least a bachelor's degree from college

Metropolitan Area Unemployment Rate
by Proportion of Population Age 25 and Over
with Bachelor's Degree or More, 1999



increases, the unemployment rate in 1999 tended to decrease.

In 1999 the unemployment rate ranged from a low 3.1 percent in **Atlanta, Boston, Dallas, San Francisco** and **Washington**, to a high of 5.8 percent in **Miami**. The correlation between the proportion of the population age 25 and over with at least a bachelor's degree and the unemployment rate was -0.601 in 1999.

Unemployment data by metropolitan area is readily available for the years under study here.

1989	-0.623
1991	-0.479
1993	-0.473
1994	-0.468
1995	-0.008
1999	-0.601

With the exception of 1995, the correlations between the unemployment rate and educational attainment remain strongly negative over the decade.

Poverty rate. The chart on the next page shows the relationship between educational attainment and the poverty rate in the 15 largest metropolitan areas. Here too the relationship is strongly negative. Increasing education leads to decreased poverty. Lower levels of educational attainment yield higher poverty levels.

Complete poverty data for all 15 cities were difficult to find. We found data for all 15 cities only for 1989 and 1993. In 1989 the correlations between poverty rates and educational attainment was -0.710, and for 1993 it was -0.611. Incomplete data are available for 1999 and 2000 under the revised OMB definitions of metropolitan areas.

Other Correlations

We have examined several additional correlations between educational attainment and other measures of the welfare of people in metropolitan areas.

Infant deaths. The death rate among infants per 1000 live births averaged 8.2 in our 15 largest cities in 1994. The range was from a high of 10.1 in **Cleveland** to 5.7 in **Boston**. The correlation between the infant death rate and the proportion of people 25 and over with at least a bachelor's degree was -0.285 in 1994. Infant death rates tended to be lower in metropolitan areas with greater concentrations of college graduates.

Physicians. In 1995 there was an average of 287 physicians per 100,000 in our 15 largest cities. The rate ranged from a low of 192 in **Dallas** to 385 in **Boston**. The correlation between physician concentration and concentration of adults with bachelor's degrees was +0.391 in 1995. There were more physicians where there were more college graduates.

Serious crime. The available data on serious crime rates in metropolitan areas is incomplete, and only available for the years 1989, 1991, 1993 to 1995. The correlations with educational attainment are never very large, sometimes positive and sometimes negative. There is no consistent relationship between serious crime rates and educational attainment evident in these incomplete data.

Consumer expenditures. In 1999 average consumer expenditures per household was $40,882. Across the 15 metropolitan areas the range was from $34,517 in **Pittsburgh** to $51,016 in **San Francisco** in 1999. The correlation between educational attainment and consumer expenditures was +0.715. This measure, like the income and pay variables is very highly associated with educational attainment through the bachelor's degree in American cities.

Sale price of existing one-family homes. We have data on the median sale price of existing single family homes in ten of the fifteen largest cities for 2000. The average was $218,000, with a range from $125,200 in **Philadelphia** to $454,600 in **San Francisco**. The correlation between sale price and educational attainment was +0.591 in 2000. Again, this variable like the income, pay and expenditures measures is highly correlated with educational attainment at the bachelor's degree level.

Owner occupied housing. In the fifteen largest metropolitan areas, 56.7 percent of the housing units were owner occupied in the late 1990s. The range was from 41.7 percent in **New York** to 68.0 percent in **Detroit**. The correlation between owner occupied housing and educational attainment was -0.276. Across cities, increasing levels of educational attainment are associated with declining rates of owner occupied housing.

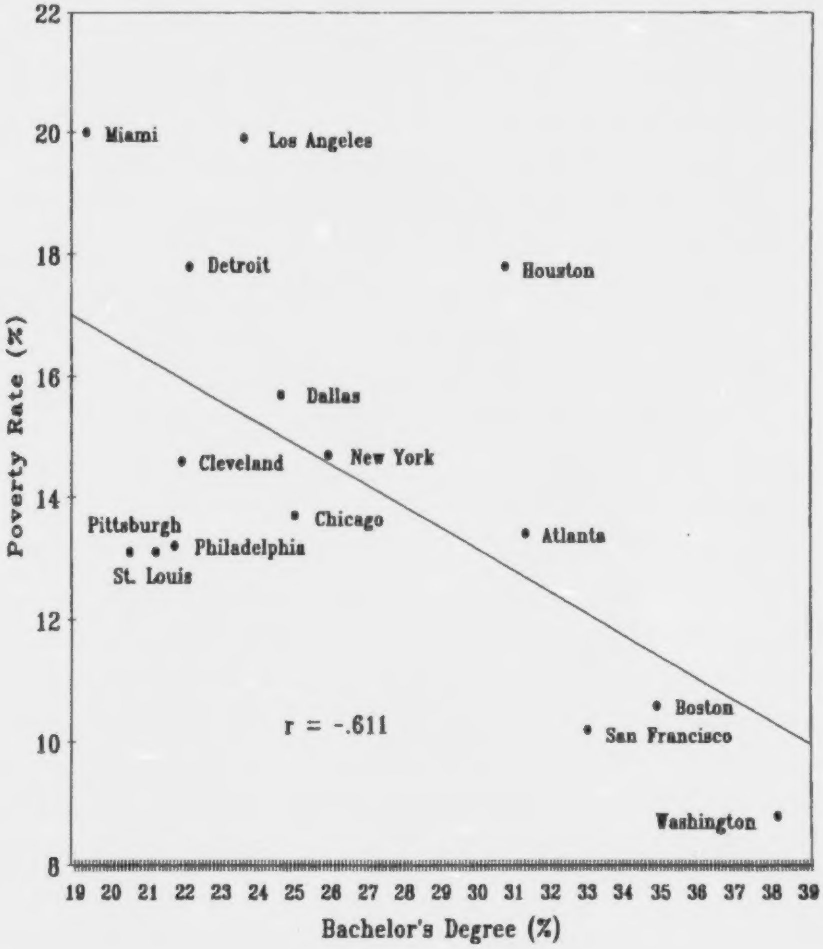
Single family housing. In the fifteen largest cities, 63.2 percent of housing units were single family housing in the late 1990s. The range was from 32.3 percent in **New York** to 75.0 percent in **Detroit**. The correlation between educational attainment and single family housing was -0.133.

Conclusion

Cities with a greater share of college educated adults tend to have higher per capita personal income, average annual pay, average consumer expenditures per household, sale prices of existing single-family homes and concentrations of physicians. They also tend to have lower unemployment rates, poverty rates, infant deaths, owner occupied housing and single family housing.

More education leads to higher living standards. In this case, this finding applies to cities, just as it has to individuals, households and families, states and racial/ethnic groups. The common unit of analysis is the individual. Individuals get education, then band together in families, cities and states. Beginning with the education of the student, we aggregate human capital in social and economic systems with varying degrees of group welfare measures. What distinguishes these groups is their human capital--how much postsecondary education and training they can employ in their productive and consumptive lives.

Metropolitan Area Poverty Rate
by Proportion of Population Age 25 and Over
with Bachelor's Degree or More, 1993



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- An Evaluation of New Jersey's Outstanding Scholar Recruitment Program
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- Changes in Net Price of College: 1992-93 to 1999-2000
- Increasing College Access or Just Increasing Debt: The Problem with Raising Student Loan Limits
- Crucial Choices: How Students' Financial Decisions Affect Academic Success
- How Higher Education Costs Influence Student Labor Market, Borrowing and Schooling Decisions
- Demonstration of College and University Data Analysis System
- College Access in Minnesota: Impacts of Financial Aid on Students, Markets and Policy
- Understanding the Barriers to College Access for Low-Income Students: The Role of State Context
- Quantifying Value Added to Post-Collegiate Earnings by Higher Education Achievement for Low-Income Dependent Students
- Reducing the Barriers to Access for Minority Students
- Using Financial Aid to Recruit Teachers: Do Repayment Programs Work?
- Workforce Contingent Financial Aid: Characteristics and Scope of State Loan Repayment Programs

. . . and much more

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The Environmental Scanning Research Letter of Opportunity for Postsecondary Education

Number 119 **www.postsecondary.org** **May 2002**

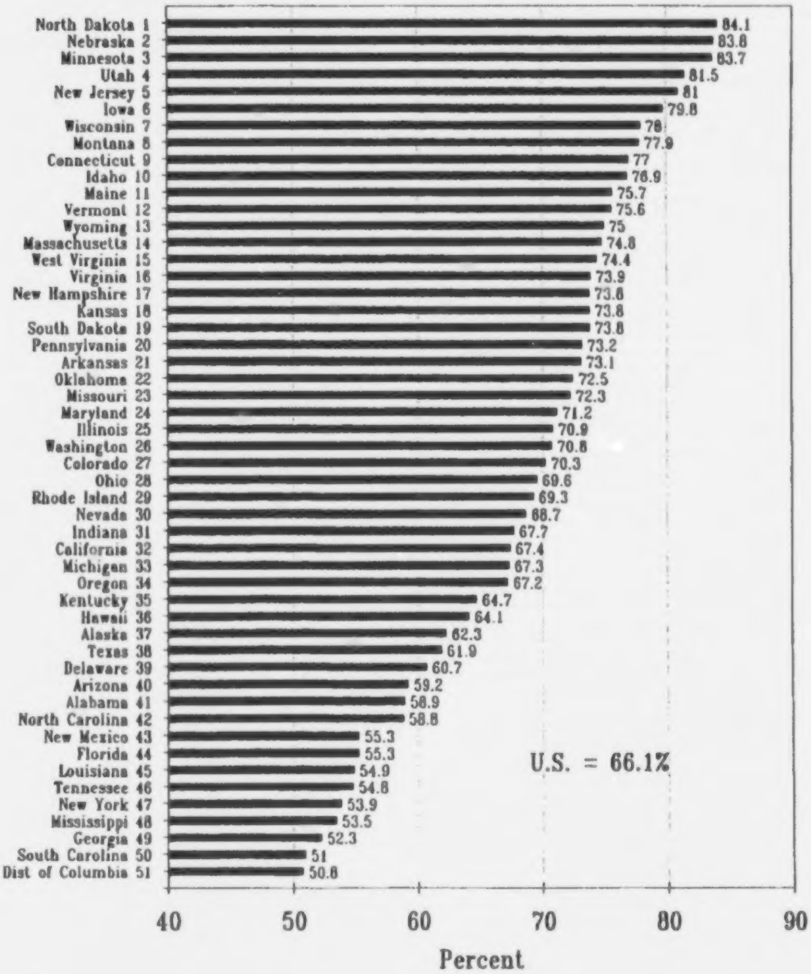
Public High School Completion by State and Race/Ethnicity 1981 to 2000

High school completion no longer means only high school graduation with a diploma in the United States. Many students "complete" high school with something other than a high school diploma. These alternative certifications may include: a) the GED (or state equivalent, such as in California), b) certificates of completion that mean the student showed up for 12 years, or c) other approved forms of completion, such as for special education students.

As states raise the bar to high school graduation for their secondary students, these alternative forms of completing high school appear to be growing. States have been busy both adding course requirements to those required to receive a high school diploma and adding tests required for graduation. One result, as shown on this page, has been a steady and substantial decline in the number of public secondary school ninth grade students receiving a regular high school diploma four years later.

- Between 1972 and 2000, the regular diploma high school graduation rate declined from 72.2 to 66.1 percent.
- Expressed another way, between 1972 and 2000, in addition to the 1,010,000 ninth graders who failed to receive a diploma at the 1972 rates, an *additional* 237,000 ninth graders failed to receive high school diplomas because of the decline in graduation rates between 1972 and 2000.

Public High School Diploma Graduation Rates by State
2000



As "high school graduation" morphs into "high school completion" in our language, a noticeable qualitative change is occurring. A growing share of completers have not been able to complete the curricular requirements for a high school diploma. Their certification is for something less than having met the curricular and testing requirements for a regular high school diploma.

A larger and faster growing share of high school students are simply dropping out of high school and taking and passing the GED thinking they now are "equivalent" to a high school graduate. Of course they are not: they are dropouts while diploma recipients are persisters. This behavioral difference between dropping out and persisting is crucial to accomplishment later in college, at work and in life.

In this analysis we take a critical look at high school completion. We look at changes over time, and we look at what is happening in the states. In addition to the declining proportion of public school ninth graders that are completing the requirements for a regular high school diploma, we find profoundly disturbing (but expected) patterns in the states.

> *In particular we find that minorities in nearly all states are less likely than non-Hispanic whites to complete regular high school graduation requirements and receive a diploma.*

The high school diploma is no longer sufficient to gain access to the best paying jobs available in the American labor force. Postsecondary education and training are required for these jobs. But a high school diploma is a critical foundation for the academic experiences required for success in higher education. Those who quit or receive inferior credentials in high school have greatly diminished chances to continue their educations and be successful in college and prosperous as adults.

What we are observing in these data is the failure of equal educational opportunity in K-12 education. Were resources being targeted on at-risk populations early in their education careers, the disparity in quality of high school completion credentials would almost certainly be far less than it is. But we don't invest equally in the education of our children, and we certainly don't target resources on those who need them the most. In fact it is quite the opposite--we invest the most in those born into affluence, and the least in those born into lowest income families.

In this analysis we extend our previous studies of declining regular high school graduation rates reported previously. Here, in particular we look at incomplete state data on the forms of high school completion for students from different racial/ethnic backgrounds. And because our concern is with postsecondary education opportunity, these differences advantage some students (mainly white non-Hispanic students) and disadvantage others (minorities).

Our conclusion is that the United States is a long way from equalizing higher education opportunity, and is moving farther away in both secondary and postsecondary education from this goal.

The Data

Source. The data used in the following analyses were collected from state education agencies by the National Center for Education Statistics in the Common Core of Data (CCD). This annual survey gathers data on students, teachers and graduates, as well as fiscal data.

The high school completion data for 1999-2000 were reported in:

> Young, B.A. (April 2002). *Public School Student, Staff, and Graduate Counts by State: School Year*

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Mission Statement

This research letter is founded on two fundamental beliefs. First, sound public social policy requires accurate, current, independent, and focused information on the human condition. Second, education is essential to the development of human potential and resources for both private and public benefit. Therefore, the purpose of this research letter is to inform those who formulate, fund, and administer public policy and programs about the condition of and influences that affect postsecondary education opportunity for all Americans.

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2000-01. NCES 2002-348. Washington, DC: National Center for Education Statistics.
We downloaded our copy from:
http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2002348
In particular our analysis mainly uses data from Tables 6, 7, 8 and 9 from this report.

Our time series analyses were constructed from prior year reports in this series. Most of these data are later compiled and reported in the *Digest of Education Statistics*, also published by NCES.

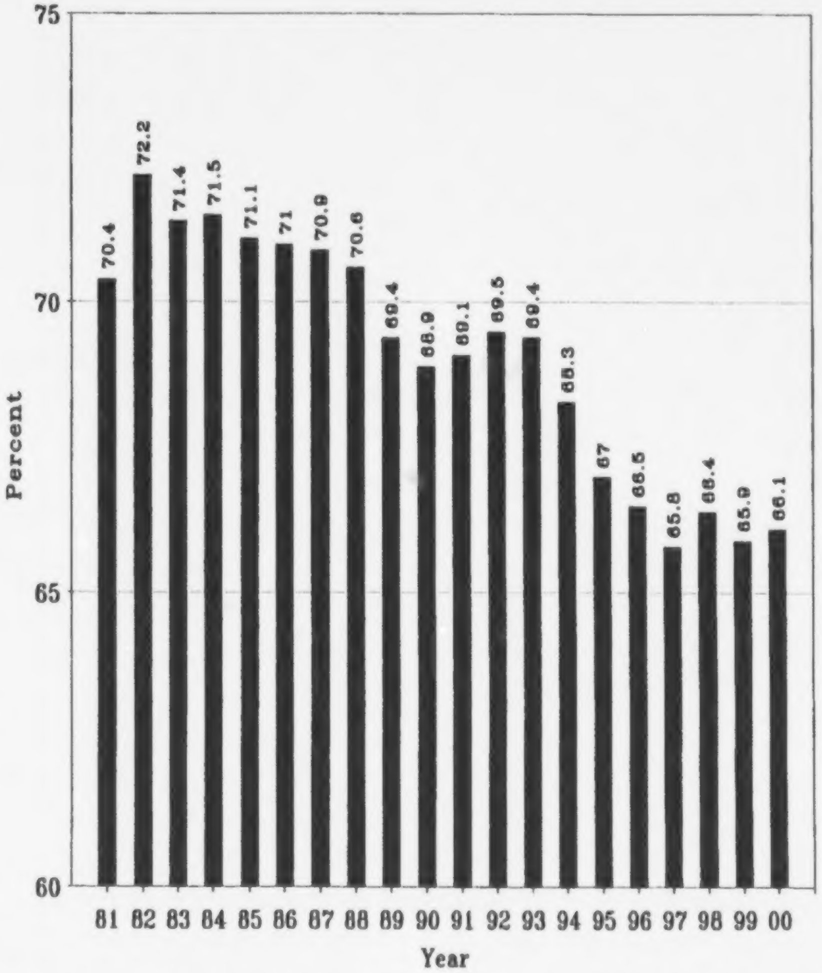
Definitions. NCES provides definitions for the three forms of high school completion for which data were gathered in the CCD as follows:

Diploma recipients: These are those graduates who received a diploma during the previous school year and subsequent summer school. A diploma recognizes that the recipient has successfully completed a prescribed course of studies at the secondary school level.

High school equivalency recipients: These are individuals age 19 or younger (except in Minnesota where they are age 20 or younger) who received a high school equivalency certificate during the previous school year or subsequent summer. This is a formal document certifying that an individual met the state requirements for high school graduation equivalency by obtaining satisfactory scores on an approved examination, and met other performance requirements (if any) set by a state education agency or other appropriate body.

Other high school completers: These are individuals who received a certificate of attendance, or other certificate of completion., in lieu of a diploma during the previous school year and subsequent summer school.

Public High School Diploma Graduation Rates
1981 to 2000



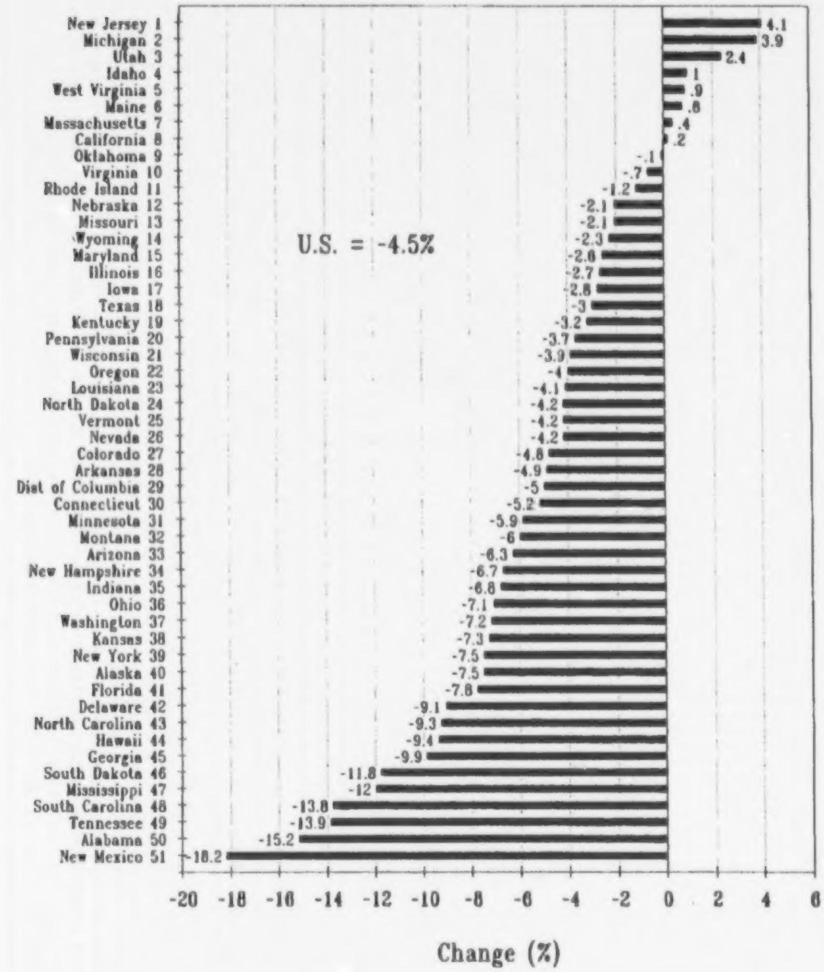
Adjustments. Our calculation of the public high school graduation rate is simply the ratio of regular high school diploma recipients in a given year, divided by the number of students that were enrolled in the ninth grade four years earlier.

However, in about 33 states, not all secondary students (9th through 12th grades) are classified by grade level. In a few states these numbers are quite large, and in others these numbers are very small. Our analysis assigns a portion of these unclassified secondary students to the ninth grade to more accurately, completely and comparably calculate regular high school graduation rates in this study.

Note: While we are unclear who these unclassified secondary students are, their numbers are shrinking over time, from a peak of 438,000 in 1980 to 211,000 in 1998. Early data in this time series strongly suggests most of these unclassified secondary students were in special education.

Public High School Graduation

In the fall of 1996 there were



Change in Public High School Diploma Graduation Rates
1988 to 2000

3,853,497 students enrolled in ninth grade in public secondary schools in the 50 states plus the District of Columbia. Four years later, during the 1999-2000 school year, there were 2,546,102 students who received regular high school diplomas. Of those who started ninth grade, 66.1 percent graduated with regular high school diplomas.

Of course this means that 1,307,395 students that started ninth grade in the fall of 1996 did not receive high school diplomas. One out of three ninth graders did not leave high school by 1999-2000 with a regular diploma.

As shown in the chart on page 3, the public high school diploma graduation rate has been declining since at least 1982. Between 1982 and 2000 the public high school graduation rate declined by 6.1 percentage points, from 72.2 to 66.1 percent. This 6.1 percent decline converts to about 235,000 students not receiving regular high school diplomas. About 59 percent of the total decline occurred between 1993 and 1997, when "high standards" and "high expectations" were being touted as national educational policy under the Clinton administration.

The public high school graduation rate by state is shown in the chart on the first page of this issue of OPPORTUNITY. In 2000 rates ranged from 50.8 percent in the **District of Columbia** to 84.1 percent in **Nebraska**.

Many of the lowest ranking states are those in the South. The states where less than 60 percent of the 1996 ninth grade class received regular high school diplomas in 2000 were **South Carolina** (51.0 percent), **Georgia** (52.3 percent), **Mississippi** (53.5 percent), **New York** (53.9 percent), **Tennessee** (54.8 percent), **Louisiana** (54.9 percent), **Florida** (55.3 percent), **New Mexico** (55.3 percent), **North Carolina** (58.8 percent), **Alabama** (58.9 percent) and **Arizona** (59.2 percent.

Most of the states with the highest high school graduation rates are northern states. Besides North Dakota, these include: **Nebraska** (83.8 percent), **Minnesota** (83.7 percent), **Utah** (81.5 percent), **New Jersey** (81.0 percent), **Iowa** (79.8 percent), **Wisconsin** (78.0 percent), **Montana** (77.9 percent), **Connecticut** (77.0 percent) and **Idaho** (76.9 percent).

The correlation between the average annual temperature in the largest city in each state and it's public high school graduation rate is -.52. This means that as temperature goes up, graduation rates go down. Global warming clearly does not bode well for the future of public high school graduation rates in the U.S. ;)

Between 1988 and 2000, the public high school graduation rate declined from 70.6 to 66.1 percent. Over this period, the graduation rate increased in eight states and declined in the remaining 43 states. The increase was greatest in New Jersey (+4.1

percent), **Michigan** (+3.9 percent) and **Utah** (+2.4 percent), but also increased in **Idaho, West Virginia, Maine, Massachusetts** and **California**.

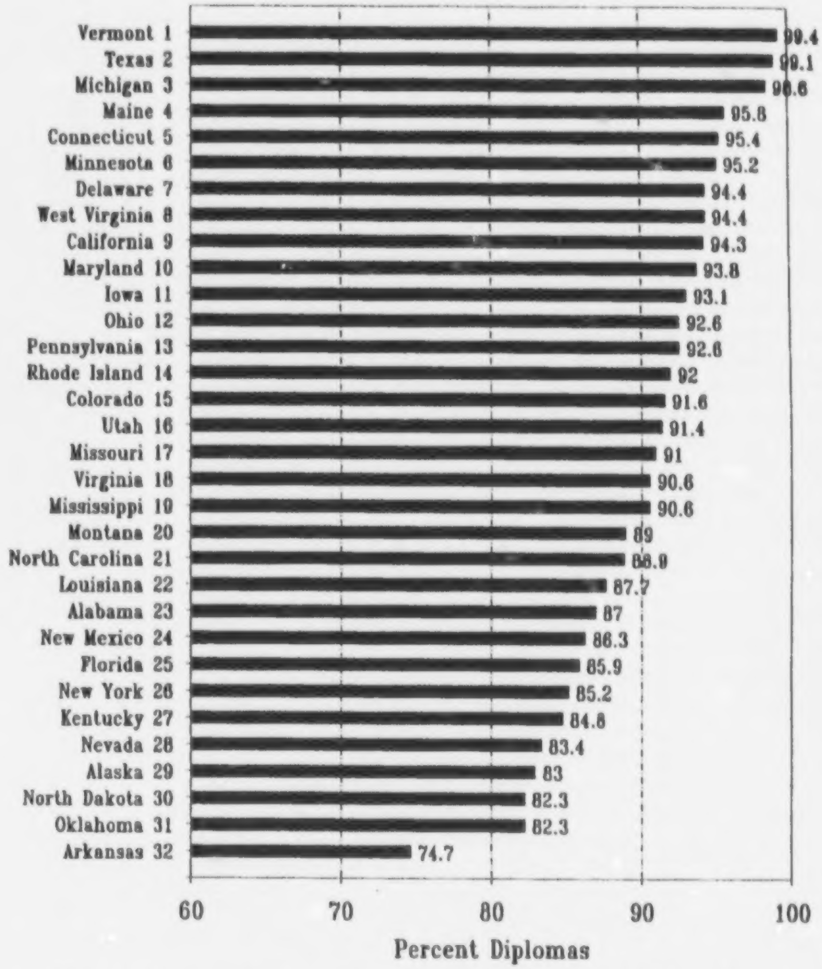
In the remaining 43 states the public high school graduation rate declined, by as much as 18.2 percent in New Mexico. The states where the graduation rate declined by more than 10 percent between 1988 and 2000, in addition to New Mexico, were: **Alabama** (-15.2 percent), **Tennessee** (-13.9 percent), **South Carolina** (-13.8 percent), **Mississippi** (-12.0 percent) and **South Dakota** (-11.8 percent).

Alternative High School Completion

High school students may "complete" high school without receiving a high school diploma in two ways. The first way is to put in the required 12 years without completing graduation requirements. For persistence these students may receive a certificate of completion, sometimes called a certificate of excellence or perhaps a special education diploma. These students receive recognition mainly for sticking it out, something dropouts do not manage, but they do not complete graduation requirements for a regular high school diploma.

The other form of high school completion short of earning a diploma is to pass the GED test or state equivalent where they are offered, such as California. These students have left high school but want the credential. The GED is designed to reflect what a high school graduate knows, and is therefore challenging. But those who take the GED route have dropped out of high school. Once the attrition habit is started, it may occur again in the future when academic or other challenges are encountered.

Diploma Share of Public High School Completers
2000



For 2000, 32 states have reported forms of high school completion. In all of these states the diploma is by far the most common way of completing high school. Among these 32 states, the proportion of high school completers with a regular diploma ranged from 74.7 percent in **Arkansas** to 99.4 percent in **Vermont**. In addition to Vermont, states where more than 95 percent of completers receive high school diplomas include **Texas** (99.1 percent), **Michigan** (98.6 percent), **Maine** (95.8 percent), **Connecticut** (95.4 percent) and **Minnesota** (95.2 percent).

The most common alternative to the diploma is the high school equivalency certificate, usually the GED. Of the 32 states reporting completion by high school equivalency, the states with the largest proportion of completers via equivalency in 2000 were:

Arkansas	19.4%
Oklahoma	17.7%
North Dakota	17.7%
Alaska	16.3%
Kentucky	14.4%
Nevada	11.8%
New York	11.4%
New Mexico	11.1%
Montana	11.0%

Florida	10.9%
Louisiana	10.1%
North Carolina	10.1%

The above data refer to GED completion by age 19. Of course many GEDs are awarded well after age 19. However, these data capture a cohort similar to the diploma recipients.

The third category of high school completion is "other," or what are probably certificates of completion. In most of the 32 states reporting these data, these are less than one percent of all completers. However, in a few states these students amount to a noticeable share of those completing high school in 2000:

Mississippi	7.8%
Arkansas	5.9%
Alabama	5.8%
Nevada	4.8%
New York	3.3%
Florida	3.2%
New Mexico	2.6%
Virginia	2.6%
Louisiana	2.2%

Racial/Ethnic Completion

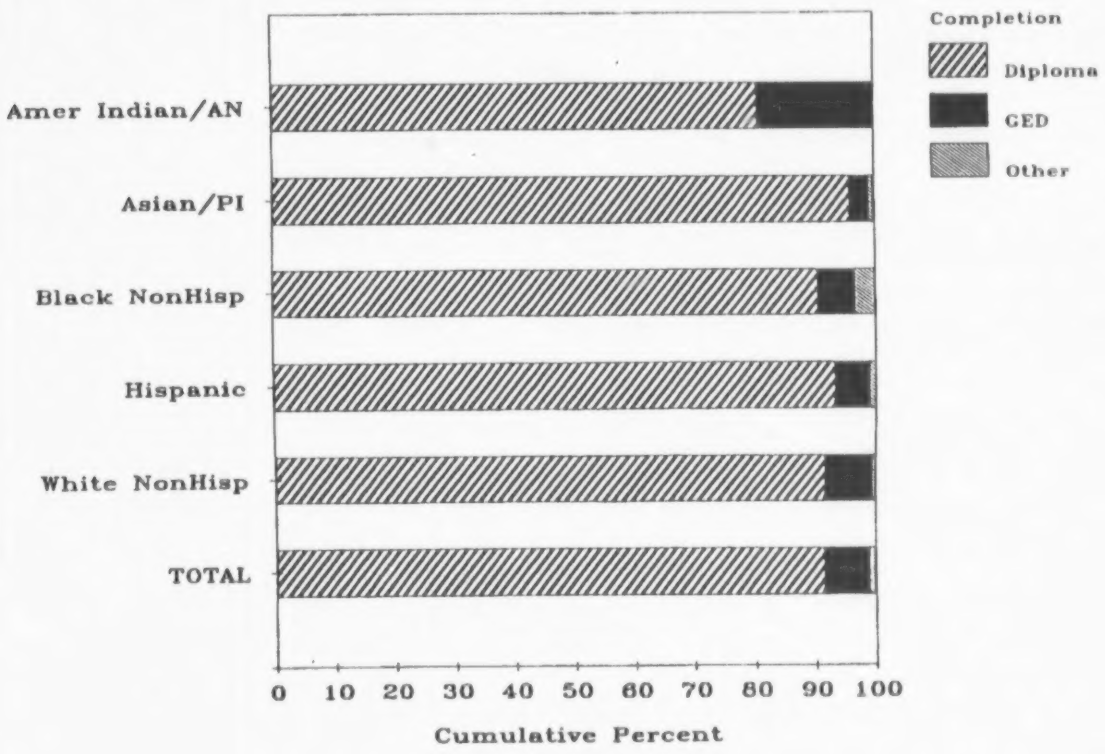
The published NCES data do not include high school completion rates for students from different racial/ethnic groups. (We have seen these data for some states, and the WICHE projections of high school graduates indicate that these data are available for most states.)

However, 46 states have reported the race/ethnicity of regular diploma recipients, 19 states have reported the race/ethnicity of their GED recipients, and 26 states have reported other completers by race/ethnicity. From these data for the 19 reporting states that report race/ethnicity for all three forms of high school completion we can construct fair estimates of the chances minority and majority students will complete high school. These 19 states are: North Dakota, Utah, Iowa, Montana, Connecticut, Maine, Virginia, Arkansas, Oklahoma, Colorado, Nevada, Michigan, Kentucky, Alaska, Texas, North Carolina, Florida, Louisiana, and Mississippi.

In the 19 states 975,241 students completed high school in 1999-2000. Of this total, 69 percent were white non-Hispanics, 15 percent were black non-Hispanics, 11 percent were Hispanics, 2 percent were Asian/Pacific Islanders, and 2 percent were American Indian/Alaskan Natives.

The chart on page 6 shows the type of high school completion for those who "completed" high school by race ethnicity in the 19 states. Overall, 91.4 percent completed high school

Type of High School Completion by Race/Ethnicity
2000

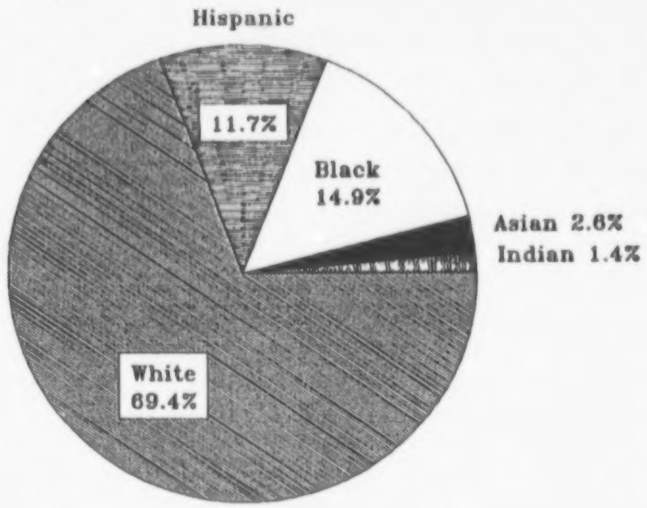


with a diploma, 7.3 percent with a GED and 1.3 percent were other completers.

Of course these completion rates varied significantly across racial/ethnic groups.

- *American Indian/Native Alaskans* who completed high school were least likely to receive a diploma (80.6 percent), most likely to receive a GED (19.0 percent) and least likely to complete high school as "other completers.".
- *Asian/Pacific Islanders* were most likely to complete high school with a diploma (95.8 percent) and least likely to complete high school with a GED (3.1 percent).
- *Black non-Hispanics* were most likely to complete high school as "other completers."

Racial/Ethnic Distribution of Diplomas Awarded in 19 States, 2000



Total: 891,564

We have examined these data in more detail in the 19 states controlling for the public high school graduation rates. In the six states with public high school graduation rates between 75 and 85 percent (North Dakota, Utah, Iowa, Montana, Connecticut and Maine) the above findings largely hold. American Indians are least likely to complete high school with a diploma and most likely to complete high school with a GED (by wide margins compared to the other groups). Asians were most likely to complete high school with a diploma, followed closely by white non-Hispanics. Asians were also most likely to complete high school as "other completers."

In the nine states with public high school graduation rates of 60 to 75 percent (Virginia, Arkansas, Oklahoma, Colorado, Nevada, Michigan, Kentucky, Alaska and Texas), again the basic pattern for the population holds. American Indians were least likely to complete high school with a diploma and most likely to complete with a diploma, by wide margins compared to the other racial/ethnic groups. Asians were most likely to complete with a diploma, followed by Hispanics. Black non-Hispanics were most likely to complete high school in the "other" category.

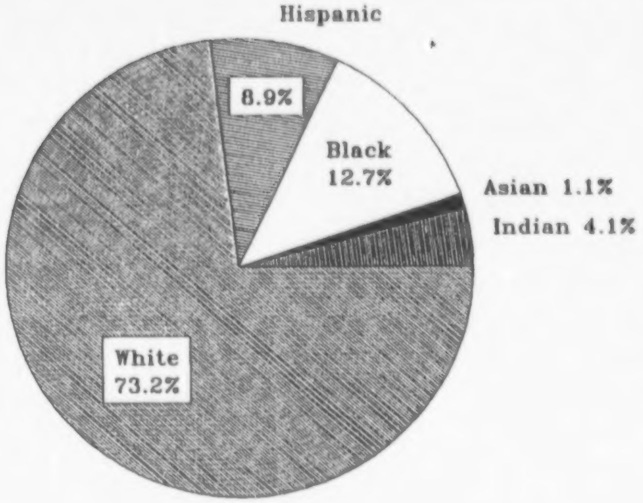
In the four states with public high school graduation rates between 53 and 59 percent, again the basic pattern held. American Indians were least likely to complete high school with a diploma, and most likely to complete with a GED, by wide margins compared to the other groups. Asians were the most likely to complete high school with a diploma, followed by black non-Hispanics. Blacks were least likely to complete high school with a GED, and most likely to complete as "other completers."

Quite separate from the issue of high school graduation or even completion rates is the quality of the completion certification. And that this varies across racial/ethnic groups is important to the need to prepare a growing share of our population for postsecondary education. The jobs in the human capital economy requires this policy and program focus.

But what these data describe is quite different forms of high school completion for the different racial/ethnic groups.

Asian students get the highest quality high school completion certification. Nearly 96 percent of those who complete high school earn regular high school diplomas. This is a consistent finding across the country and in states with quite different public high school graduation rates.

Racial/Ethnic Distribution of GEDs Awarded in 19 States, 2000



Total: 70,998

Black non-Hispanics, Hispanics and white non-Hispanics that complete high school are about equally likely to earn diplomas. Then, falling well behind all other groups, American Indians are least likely to complete high school with a diploma.

American Indians stand out by their preference for the GED. About one in five Indians who complete high school take the GED route--a rate nearly three times greater than for other racial/ethnic groups.

While blacks do well receiving diplomas, they have the largest proportion of completers in the "other" category, presumably receiving certificates of completion. While available data do not clarify the meaning, it appears that these students put in their seat time for 12 years without completing graduation requirements for a diploma.

These differences suggest considerable sorting occurring in public secondary schools. These differences have obvious meaning for postsecondary preparation and opportunities, and the jobs that follow in adult life.

Raising the Bar for/to Graduation

Secondary education must be in constant trouble because efforts to change it seem to be endless. The most recent reforms began two decades ago with release of the landmark report *A Nation at Risk.* Most recently an important study of the often wasted senior year of high school has been advanced, and a federal government once reluctant to tinker with locally run K-12 education has now usurped that authority with its own educational incentives and penalties.

Data such as what we have reported here should clearly fuel continuing fires for reform. The Human Capital Economy began about 1973. Since then income from labor, and the quality of life that income supports in the United States, has been relentlessly reallocated according to educational attainment. Those with the most education have prospered, while those with the least have experienced increasingly brutal and downwardly sliding lives. Since 1973 it is no longer sufficient to be honest and willing to work hard. In the Human Capital Economy one must also be educated or trained at the postsecondary level. The more the better, and it needs to be continuous throughout one's working career to keep skills current.

Thus the findings of this analysis take on significance:

- Only about two out of three students that begin the ninth grade in public high schools complete graduation requirements and receive a diploma.
- A declining share of ninth graders in public high schools are completing the requirements for a regular high school diploma. Or, a declining share of those who start ninth grade are preparing to be successful in college and employment.
- The decline in the public high school graduation rate has occurred in nearly every state.
- Diploma completion rates are unequal across racial/ethnic groups. Among high school completers, Asian/Pacific Islander students get the best credentials for college.

As the Human Capital Economy continues to evolve, the educational attainment requirements of the workers that fuel its growth will continue to increase. A growing share of workers will need the education and training provided by postsecondary education to meet the manpower needs of employers. Indeed, many of these skills are already in short supply, despite the complaints of recent college graduates about difficulties in finding entry level jobs. Over the next decade, Bureau of Labor Statistics employment projections make clear greatest job growth is among positions requiring college education.

Moreover, as the Human Capital Economy has evolved, the demographic structures of the American workforce are changing too. The white population is aging. And the pig-in-the-python cycles of the post World War II baby boom and bust continue to move through education and the workforce.

But the largest change has been the enormous replacement of white non-Hispanics with minorities, especially Hispanics, Asians and black non-Hispanics. In 1960 about seven percent of the high school graduates were minorities. In 2001 it was 29 percent, and in another decade the minority share of high school graduates will be close to 40 percent.

A changing population requires changes in the delivery of educational services to students. Some of these changes may be language related, as part of the population change has been driven by immigration. But quite likely the larger factor is the cultural values toward education that these growing population shares bring with them. In particular, as data presented in past issues of OPPORTUNITY make perfectly clear, the rapidly growing Hispanic population has very poor high school graduation rates, weak college continuation rates, and thus lags far behind other population groups in college-level educational attainment. Because of this, Hispanics have fallen behind other Americans on broad measures of economic welfare such as poverty rates and family income.

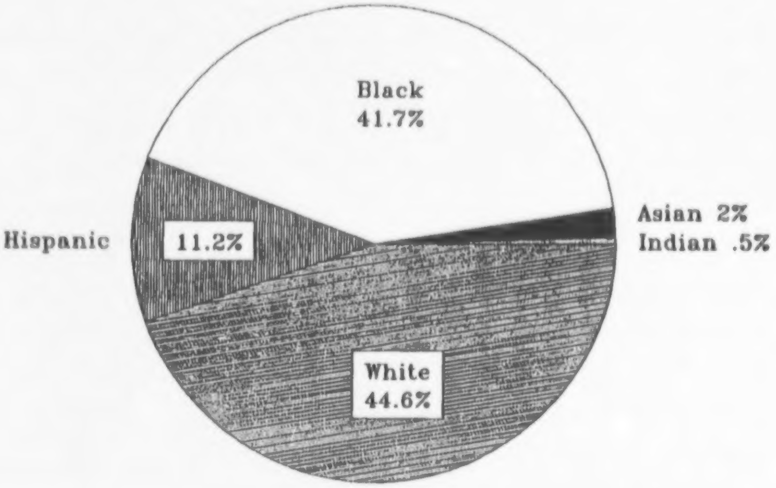
Within this context of increasing educational attainment requirements of the Human Capital Economy and changing demographics, our political leadership has tried to impose an industrial production model on K-12 education. To manage productivity, employers set production goals and design the production process to achieve those goals. To increase productivity employers increase production goals and speed-up the production process. Workers are managed production units in organizational machines that produce marketable goods and services.

Unlike the commission that produced *A Nation at Risk* in 1982, with justified challenges to strengthen the high school curriculum, political leadership has often sought less expensive educational reforms. These include, but are not limited to, raising the bar to high school graduation (increasing production goals) through testing requirements for high school graduation.

The result of this managed productivity approach to the education of children produces results such as those shown on pages 3 and 4 of this issue of OPPORTUNITY.

- A declining share of students who begin the ninth grade are completing the requirements for a regular high school diploma.
- The type of high school completion varies by race/ethnicity, providing unequal educational certification to completers for the next stage of their educations.

Racial/Ethnic Distribution of Other Completions in 19 States, 2000



Total: 12,679

An obituary . . .

Need-based Student Financial Aid
1964 to 2001

This is a preliminary obituary for need-based student financial aid. Policy makers and program funders at the federal, state and institutional levels have been turning away from financial aid programs that are targeted on students who need them. Instead they are creating and funding financial aid programs for students who do not need them but have other virtues to be rewarded, such as high test scores, parents who vote at high rates, potential donors, ability to dunk a basketball, etc.

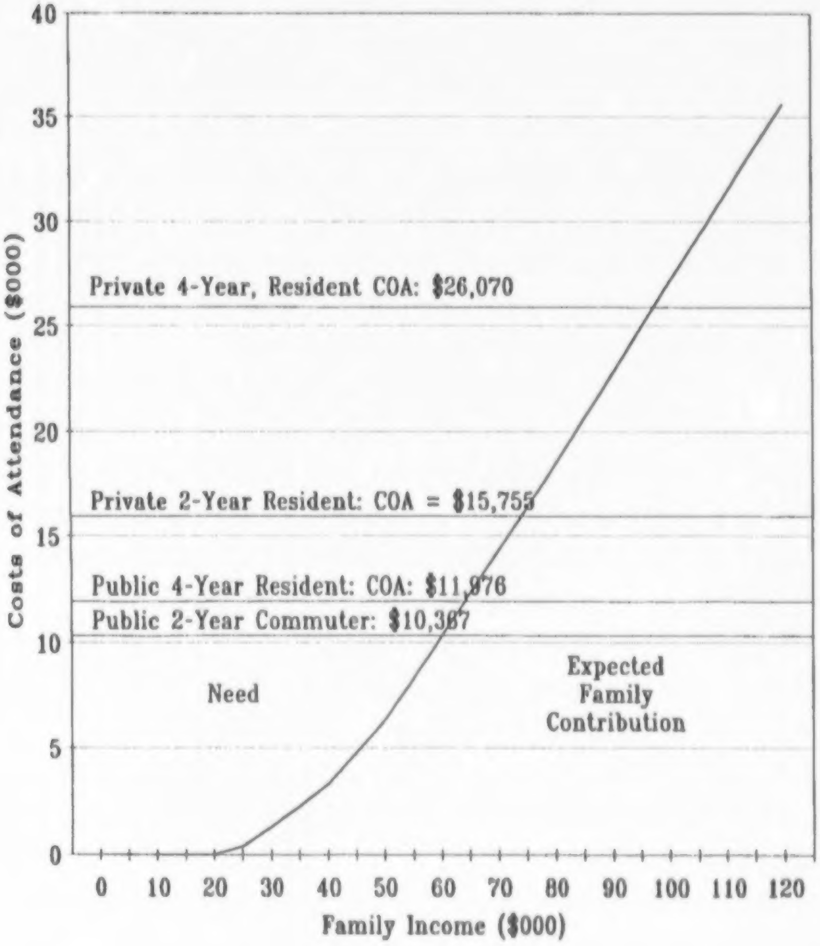
In the most recent tabulations and reports:

- At the federal level, 50 percent of all financial aid in 2000-01 was awarded on the basis of need, down from 86 percent in 1986, based on data reported by The College Board and the Internal Revenue Service.
- At the state level, 76 percent of all financial aid in 2000-01 was awarded on the basis of need, down from 91 percent in 1982, based on the annual report of the National Association of State Student Grant and Aid Programs.
- At the institutional level, 55 percent of institutional aid dollars awarded to undergraduates were distributed based on financial need in 1999-2000, according to a very recent report from the National Association of Student Financial Aid Administrators and The College Board.

This rush to create and fund new forms of non-need-based student financial aid leaves a seriously unfinished agenda to first meet the financial needs of students from low and lower-middle income families. These students cannot attend college without substantial aid from outside resources. Their families' Expected Family Contributions (EFC) from the needs assessment formula contained in Title IV of the Higher Education Act indicates that they can provide little or nothing toward costs of attending college from their own resources. Thus they have demonstrated financial need.

In studies we have reported in OPPORTUNITY, dependent undergraduates from families with incomes of less than $40,000 per year faced average unmet need of about $3000 in 1995-96, using data from the National Postsecondary Student Aid Study (NPSAS) for that year. Preliminary data from the 1999-2000 NPSAS suggests this gap has grown to about $4000 across these income ranges.

Financial Need by Family Income and
Institutional Control, Level and Residency
AY2001-02



Here we take a brief look at what is happening in federal and state student financial aid programs. Mainly we are concerned here about the movement away from needs-tested aid award policies.

Federal

The federal government became interested in financial aid for students from low income families in 1965 when the Higher Education Act was passed. This resulted in the creation of Educational Opportunity Grants (now SEOGs) with funding awarded to institutions. In 1972 Congress created the Basic Educational Opportunity Grant program (now Pell grants) as the foundation for need-based grants to students from low income families. In 1978 Congress passed the Middle Income Student Assistance Act to extend Pell Grant eligibility to students from higher income families. Loan programs were created to assist students who needed help beyond grants to meet need, and unsubsidized loans were added to help families address cash flow situations.

Since the mid 1980s most growth in federal student financial aid programs has been in non-need based assistance. Largely these have been unsubsidized loans, and more recently tax credits.

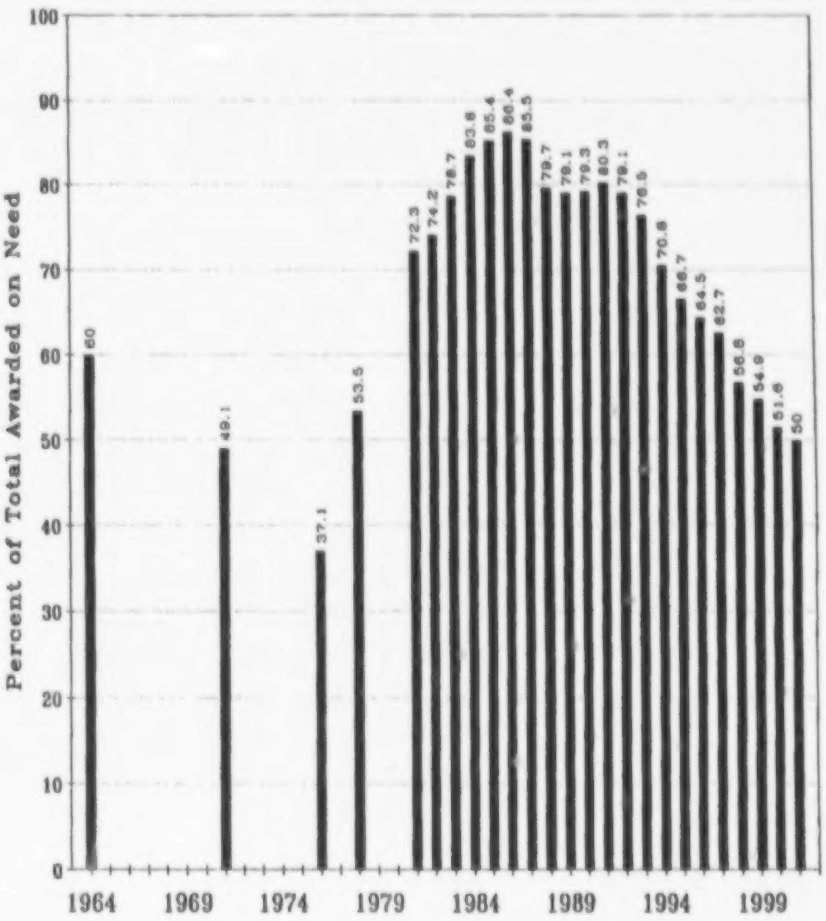
By 2001 the federal government awarded $57.7 million in financial aid. Almost exactly half was need-based, and half was not need based. The federal need-based programs are/were:

- Pell Grants (BEOG)
- SEOG (EOG)
- LEAP (SSIG)
- Work-Study
- Perkins Loans
- Income Contingent Loans
- Subsidized Ford Direct Loans
- Subsidized FELP Loans

The non-need-based federal aid programs are/were:

- Unsubsidized Staffords
- PLUS Loans
- Unsubsidized FELP Loans
- SLS Loans
- PLUS Loans
- Social Security benefits
- Veterans benefits
- Military benefits
- Other grants
- Other loans
- Hope and Lifetime Learning tax credits

Federal Student Financial Aid Based on Need
FY1964 to FY2001



Source: College Board and IRS

State

While a few state financial aid programs predate federal programs (and provided models for some federal programs), most state programs are relatively new. Many are still being created.

Until 1995, about 90 percent of state student financial aid program dollars were in need-tested programs. The programs with more than $100 million in them in FY2001 were:

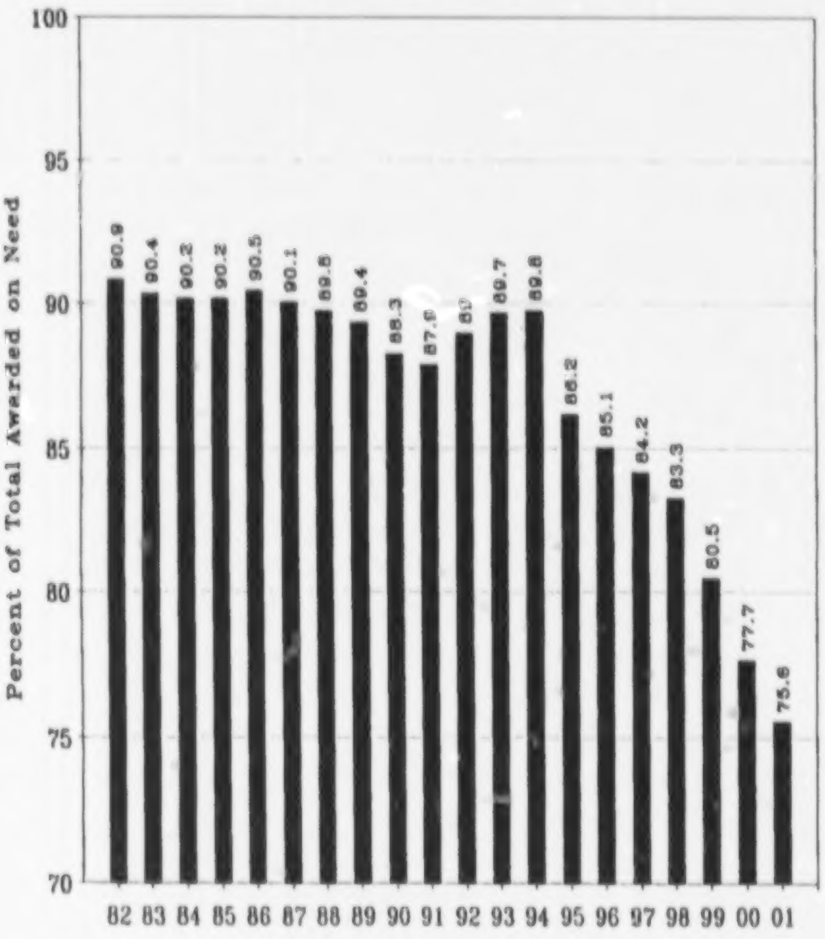
- New York's Tuition Assistance Program (638 million)
- Illinois' Monetary Award Program (349 million)
- Pennsylvania's State Grant Program ($325 million)

- California's Cal Grant A ($310 million) and Cal Grant B ($136 million) Programs
- New Jersey's Tuition Aid Grant ($153 million)
- Minnesota's State Grant Program ($116 million)

Then Georgia created its much copied HOPE Scholarship Program in 1973 and surpassed Florida as the state providing the largest funding for merit scholarships. Since then most of the new state programs have been merit scholarship programs without needs tests. By 2001 the proportion of state student financial aid awarded on demonstrated financial need had declined to about 76 percent. As recently enacted state merit scholarship programs come on line, this percentage is likely to decline much further.

The states with the largest purely merit scholarship programs with their 2000-01 funding are:

- Georgia: $282 million
- Florida: $166 million
- Louisiana: $90 million
- South Carolina: $59 million
- New Jersey: $23 million
- Kentucky: $22 million
- Ohio: $21 million



State Student Financial Aid Based on Need
FY1982 to FY2001

Source: NASSCAP

Institutions

We lack much good published data on how institutions allocate their own funds between need and non-need criteria. However, several studies of the awarding of institutional financial aid funds shed light on the often obscured practices of institutions (including public institutions).

The most recent of these studies for 1999-2000 by NASFAA and The College Board found that about 55 percent of institutionally-awarded aid to undergraduates was based on need. This proportion was far less--just 35 percent--at public colleges and universities, compared to 64 percent at private four-year colleges and universities, 55 percent at community colleges and 70 percent at private two-year colleges.

OPPORTUNITY has studied unmet financial need at the state level (New Mexico, Colorado) and nationally (National Postsecondary Student Aid Study). Our studies find that for aided undergraduates:

- Dependent students receive far larger institutional gift aid than do independent undergraduates, even when both are enrolled full-time for the entire academic year at the same institution.
- At public four-year colleges and universities, average grants for aided dependent undergraduates are largest for lowest income students, and decrease somewhat as family income increases and need decreases. However, substantial institutional grants were provided to students without financial need above about $50,000 of family income.
- At private four-year institutions, average institutional gift aid increased with family income to a peak at about $45,000, then

declined above that level. The smallest average institutional grants were awarded to students with no need.

- Community colleges provided the smallest institutional gift aid. The lowest income/highest need students received the smallest average institutional grants, while the largest went to the highest income students with no financial need.

With respect to institutional aid practices, private institutions were the most focused on meeting student financial need, while public institutions were the least focused.

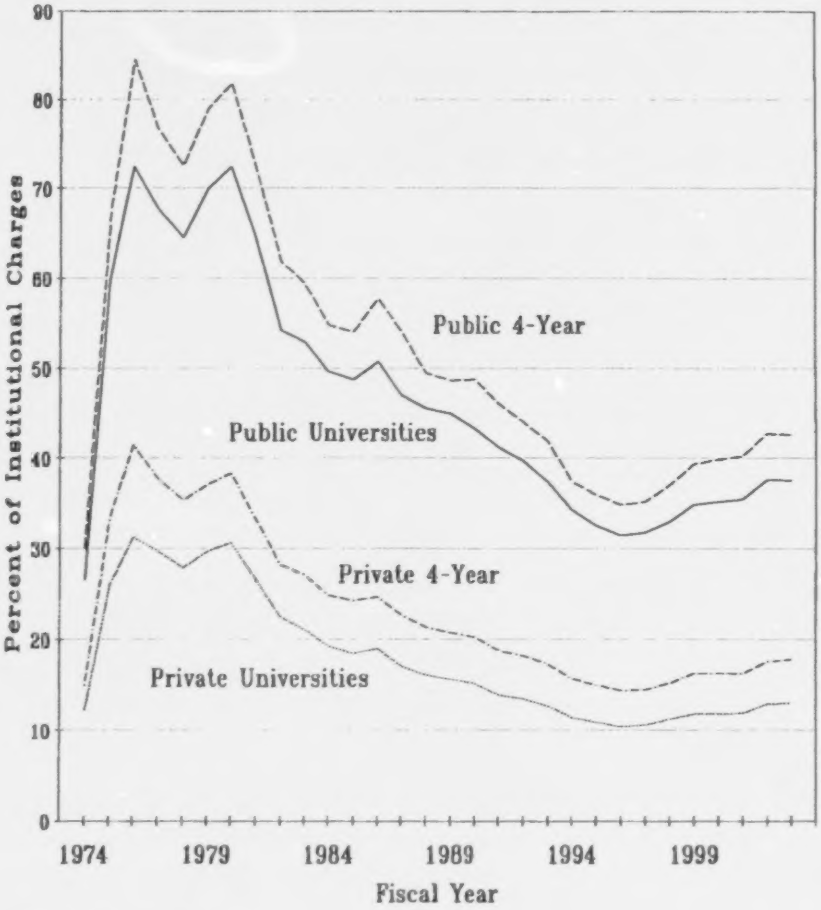
Meeting Financial Need

Financial need is simply the difference between the price of attending college and student/family resources available to pay the price.

- Attendance prices include institutional charges (tuition, fees, room and board) and other costs (books, supplies, transportation, personal care, medical care, and other costs specified in law).
- Student/family resources available to pay attendance prices are determined by formulas (e.g. Federal Methodology) that assess family income, assets, size, number enrolled in college, etc. These formulas produce an Expected Family Contribution. This EFC rises with family income.
- The difference between attendance prices and the EFC is financial need.

The chart on page 10 illustrates the region of financial need. It is the area bounded by the Expected Family Contribution line and the national average costs of attendance lines at different types of institutions. For example, an undergraduate student attending an average cost public 4-year college or university and living on

Proportion of Institutional Charges
Covered by Pell Grant Maximum Award
FY1974 to FY2003p



Source: ED, NCES and College Board

campus faced an average student budget of $11,976 in 2000-01, according to The College Board survey.

Up to $20,000 of family income the student has a zero EFC, and his/her need is therefore $11,976. At $40,000 of family income, the EFC produced by the Federal Methodology is $3293, and the student therefore has $8683 of financial need. At $60,000 of family income the EFC is $10,252 and the student demonstrates $1724 of need. About $65,000 of family income the EFC equals costs of attendance and the student no longer has financial need to attend that college.

Similar calculations hold for students attending other types of postsecondary institutions. Note that while a student is no longer financially needy at an average cost public 4-year institution above about $65,000, that same student remains financially needy at an average cost private 4-year college up to about $100,000.

For the last five decades academic scholars and policy analysts have been

JUST AND EFFICIENT COLLEGE FINANCE

As scholars and policy analysts whose research has focused on higher education, we believe that our nation and our colleges and universities need to recommit to a fundamental statement that will foster a just and efficient allocation of public and private resources for higher education.

Financial assistance to students and families – whether federal, state, or institutional in origin, and whether in the form of grants, loan subsidies, or tax-advantaged programs – should be concentrated on students from low- and moderate-income families. It is these students for whom financial aid makes a difference in the decision to enroll in and complete college.

Our purpose is to reaffirm public policies that will maximize the development of the individual talent of all Americans and will strengthen the nation's economic security. We believe that in recent years the country has diverted attention, incentives, and revenues away from students and families with the greatest financial need. Our policymakers and our institutional leaders should recommit to helping those with the fewest resources. We present these facts underlying this statement.

Facts:

1) Although our country has made progress in the last three decades in broadening access to higher education, an enrollment gap persists, one based on family income that current programs of student support have not erased.

2) Over the past 20 years, the burden of paying for public higher education has shifted significantly from the general state taxpayer to students and families, as state support has not kept pace with total costs of instruction, and as tuition has increased to cover the shortfall.

3) To shoulder this growing burden over the past decade, loans and student non-academic work have sharply exceeded grants in the supply of financial aid. Low- and moderate-income students must increasingly borrow heavily and work excessive hours to the detriment of their studies in order to gain access to college. The prospect of debt discourages many less advantaged young people from considering college. And many of those who do enroll leave college with substantial loan burdens before earning a degree.

4) Public and private colleges and universities are increasingly emphasizing criteria other than financial need in the awarding of scholarship aid.

5) Growing numbers of low-income young people seeking higher education are limited in their choice to the lowest-priced colleges and part-time attendance, reducing the odds that these students will earn a college degree.

6) In 2008, the number of high school graduates in the country is projected to be 26% higher than the 1996 level. The front end of this expansion is now moving through the educational pipeline. Most of this growth will come from groups that will be poorer on average than the population at large, greatly increasing the demand for need-based financial aid to assure that higher education is affordable for all.

7) Research clearly indicates that financial aid and lower prices of higher education make a much larger difference in the college-going behavior of low- and moderate-income students, than in the behavior of students from middle- or upper-income families.

8) Recent federal and state initiatives have favored higher income families through such forms of aid as tuition tax credits, tuition prepayment plans, and tax-deferred savings. Programs such as these are inefficient in that they subsidize college-going behavior that would occur in their absence.

The policy implications of this statement are:

1) Colleges and universities perform most effectively in the public interest when they concentrate their own financial aid on academically qualified but financially needy students, rather than using aid to subsidize financially able students to enroll at their campuses.

2) States bear the primary responsibility of assuring a supply of places and financial arrangements that permit all eligible students to enroll in college. States facing large enrollment increases in this decade bear a particularly heavy responsibility for supplying sufficient places for future students and meeting the increasing need for financial assistance.

3) The federal government has the principal responsibility of providing a solid foundation of need-based grants and loans. Priority should be placed on the restoration of grants rather than further expansion of loans for undergraduates, or tuition tax benefits for families.

The American people clearly understand the vital importance of access to higher education in today's economy. The challenge facing the nation is not one of finding the resources, but of directing them to where the needs are greatest and using them most efficiently. We urge a national recommitment to this statement.

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This statement represents the views of the signatories and not necessarily those of their organizations or institutions or of The Ford Foundation and the Nellie Mae Foundation, which supported this work.

studying the effects of price and net-price (price minus financial aid) on college student enrollment behavior. These studies have consistently found that:

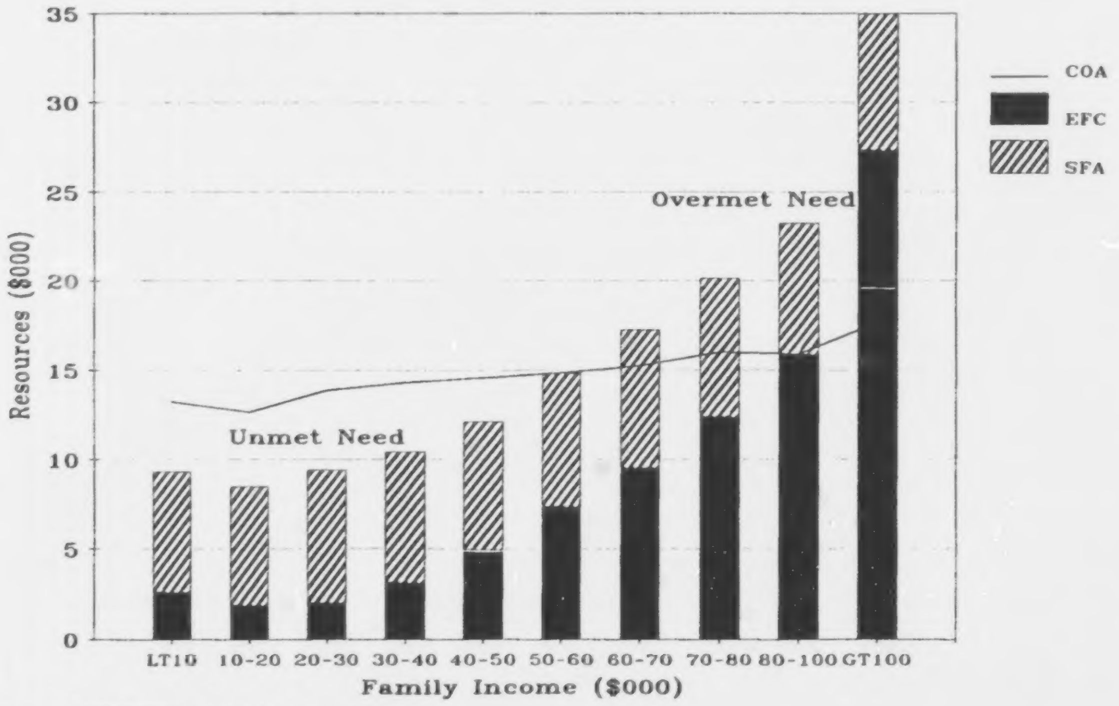
- Price limits student demand for higher education. Price imposes measurable negative barriers to student enrollment behaviors of access, choice and persistence.
- The adverse behavioral effects of price are greatest among the lowest family income students and diminish as income increases.
- Financial aid can offset the adverse effects of price barriers to higher education.
- Grants have greater positive effect on student enrollment behaviors than do educational loans.

These findings were affirmed by 19 of the nation's leading academic scholars and policy analysts in a full-page ad that appeared in the New York Times on May 7, 2001. This statement (of which I, Tom Mortenson, was an author and signer) has at its core the statement in the second paragraph "Financial assistance to students and families ... should be concentrated on students from low- and moderate-income families. It is these students for whom financial aid makes a difference in the decision to enroll in and complete college." By doing so, the public and private resources allocated to higher education would be justly and efficiently allocated.

And there are other pressing reasons why social investment should be allocated to maximize higher educational opportunity. One is the growth in educational attainment requirements of the economy over the last 30 years. We call this the Human Capital Economy. In this economy only those with postsecondary education and training qualify for the best paid jobs. Those with only a high school education or less have fallen further behind their better educated peers over the last 30 years, and this condition shows little prospect of recovery. The Human Capital Economy reserves its best paying jobs for its most productive workers, and increasingly productivity is determined by education and training.

Moreover, a conventional demand-supply interpretation of income redistribution over the last 30 years according to educational attainment would find that the skilled labor market needs of the Human Capital Economy have not been fully met. The job market has been over-supplied with inadequately educated works, thus suppressing their wages. At the same time the job market has been under-supplied with college-educated workers, thus requiring employers to bid up their wages to meet fill trained

Financing College Attendance Costs for
Full-Time, Full-Year Aided Dependent Undergraduates
1999-2000



Source: NPSAS2000 (preliminary analysis) manpower needs.

Another key reason why social investment needs to be focused on those who need help to pay college expenses is the changing demography of the United States. Forty years ago about seven percent of the high school graduates were minorities. Currently this is about 30 percent, and projections indicate the proportion of high school graduates that will be minorities will rise to 40 percent in another decade.

These minorities all have family incomes well below those of the white non-Hispanic population their are replacing. In the case of blacks and Hispanics, median family income for dependent 18 to 24 years old is less than half that of the white-non-Hispanic population.

Thus, if the relatively well educated white non-Hispanic population is to be replaced by equally well-educated blacks, Hispanics, Asians and American Indians, the investment in these population must be extraordinary compared to past investment levels. Unless and until social investment is focused on these growing shares of the U.S. population, they cannot acquire the education they and the United States needs to retain its world economic leadership position. Moreover, unless these populations are engaged in productive social, economic and political roles, they will become at best drags on the United States, holding our country back from a fuller development of our potential.

Ultimately, social investment must be directed to maximize investment returns. Just as we manage our private investments to get the largest return, so too must the federal and state investment be managed for greatest social benefit. The social science research that once guided public policy making to target social investment on real needs with predictable outcomes produced, until the early 1990s, huge gains in college participation rates in the United States. However, since then public policy has drifted sharply away from social science guidance and toward politically-inspired use of social resources.

The results of this misguided approach are now in. College continuation rates for recent high school graduates in 2001 were below where they were in 1992. The huge investments in state merit scholarships, tax-favored college savings programs, tax credits, and non-need institutional awards has nothing to show for it. Nothing.

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The Environmental Scanning Research Letter of Opportunity for Postsecondary Education

Number 120 **www.postsecondary.org** **June 2002**

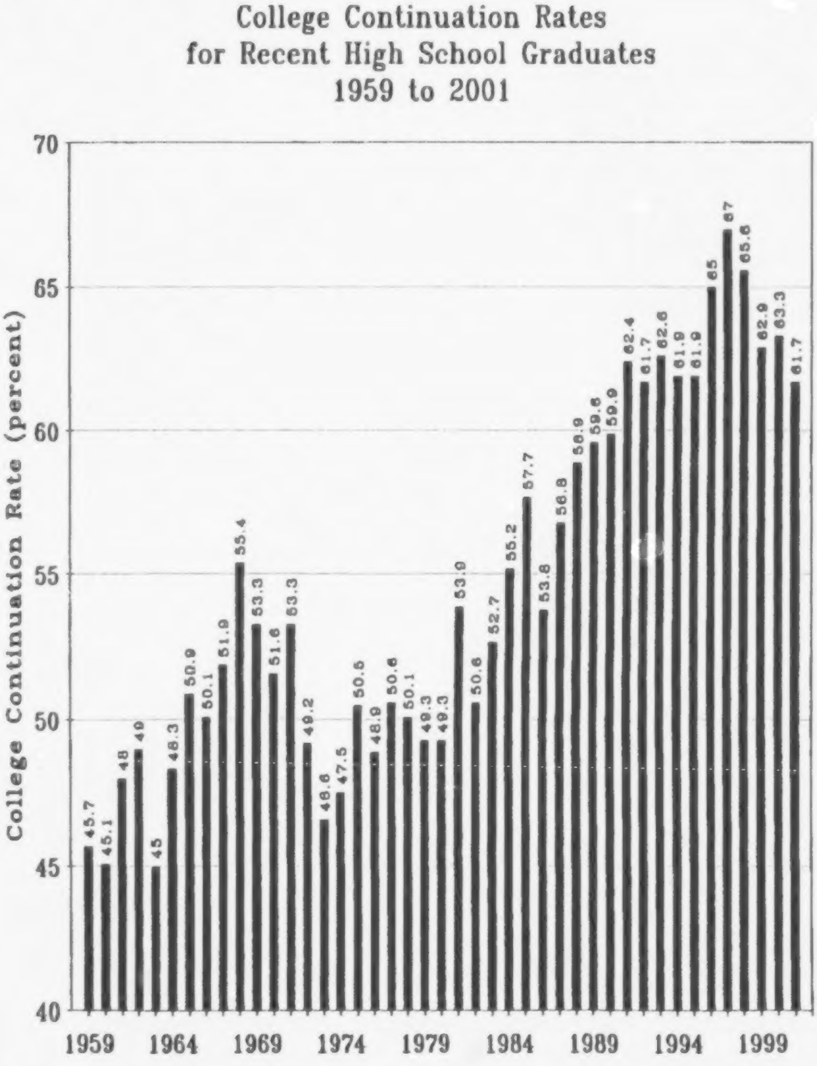
College Continuation Rates for Recent High School Graduates 1959 to 2001

In 2001 there were 2,545,000 high school graduates as measured in the October Current Population Survey. Of this total, 1,569,000 were enrolled in college by October of 2001. Thus, the college continuation rate was 61.7 percent, or 61.7 percent of the 2001 high school graduates were enrolled in college by October of 2001.

These enrollment data are the first reported following the terrorist attacks of September 11, 2001. These data also were collected during the eighth month of the economic recession that started in March 2001.

These data provide an important and profoundly troubling view of the current status of high school graduation and college continuation in the U.S. The numbers of high school graduates are declining, the numbers of college freshmen are declining, and the college continuation rates for recent high school graduates are declining. These declines are occurring three decades into the Human Capital Economy where private and social welfare are increasingly dependent on a college educated workforce.

The college continuation rate for 2001 of 61.7 percent was down from 63.3 percent in 2000, and well below the peak of 67.0 percent reached in 1997.



Not only has the college continuation rate declined, so too have the numbers of high school graduates and college freshmen who were recent high school graduates. The number of high school graduates reached a peak of 3,191,000 in 1975, then declined to 2,276,000 in 1991, then rose again to a second peak of 2,897,000 in 1999, and has now declined for the last two years to 2,545,000 by 2001. Between 1999 and 2001 the number of high school graduates declined by 352,000 or by 12 percent.

Moreover, the number of college freshmen who were recent high school graduates has declined steadily and substantially from the peak in 1997. In that year an all-time high was reached at 1,856,000. The 2001 number was 1,569,000. This was down by 287,000 or 15 percent below the 1997 peak.

To say these declines are unexpected, even given the economic recession and terrorist attacks, would be an understatement. Looking back 18 years at live births, between 1979 and 1983 the number of births in the U.S. increased from 3,494,000 to 3,639,000, or by 145,000 or 4 percent. Moreover, these declines began well before the recent economic recession and terrorist attacks.

Thus, while the reference population was increasing by 4 percent between 1997 and 2001, the number of high school graduates decreased by 12 percent and the number of college freshmen who were recent high school graduates decreased by 15 percent. To say that something is amiss in these data is insufficient. This is a catastrophe.

Our analyses of the reported data do not offer insight into why these declines are occurring. The available data only permit us to describe when, by how much and for which population groups (gender and race/ethnicity) these declines are occurring.

But we may at least speculate why these declines are occurring. The decade of the 1990s was and the current decade continues to be a period of simply terrible policy making at the federal, state and institutional levels.

- Instead of policy based on rigorous social science and policy research (as was done in the 1960s and 1970s), policy is now made based on political considerations.
- Instead of targeting resources on students who need them, new programs are targeted to buy votes.
- The federal government's initiatives--relaxing need analysis in the 1992 Education Amendments, creation of the Hope and Lifetime Learning Tax Credits in 1997, providing tax incentives for college savings programs and general neglect of the foundation Pell Grant program--has meant that the share of federal student financial aid based on demonstrated financial need has declined from a peak of 86 percent in 1986 to 50 percent by 2001.
- State governments' initiatives--merit scholarship programs and college savings programs--have meant that the share of state student aid awarded based on demonstrated financial need has declined from 90 percent in 1994 to 76 percent by 2001.
- Institutions now award just 55 percent of their own financial aid resources based on demonstrated financial need of undergraduates. Previous studies indicate that this share was probably much higher at the beginning of the 1990s.

In the following analyses we describe when and for which population groups these declines are occurring. The available data provide useful descriptive measures of the changes that are occurring in transition for high school to college.

The Data

Most of the data used in this analysis were collected by the Census Bureau in the October Current Population Survey (CPS). These data were then

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Mission Statement

This research letter is founded on two fundamental beliefs. First, sound public social policy requires accurate, current, independent, and focused information on the human condition. Second, education is essential to the development of human potential and resources for both private and public benefit. Therefore, the purpose of this research letter is to inform those who formulate, fund, and administer public policy and programs about the condition of and influences that affect postsecondary education opportunity for all Americans.

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analyzed and reported by the Bureau of Labor Statistics (BLS) in a press release "College Enrollment and Work Activity of Year 2001 High School Graduates" on May 14, 2002. This press release is available from the BLS website at:

http://stats.bls.gov/news.release/hsgec.nr0.htm

We have collected and analyzed these data since they were first reported in 1959. Our tables summarizing the key data from these historical reports are available on the OPPORTUNITY website at:

http://www.postsecondary.org/pr/pr_03.asp

The Current Population Survey collects data each month from a national sample of about 60,000 households. The survey is limited to the civilian, noninstitutional population of the United States. The Census Bureau counts GED recipients as equivalent to high school diploma recipients.

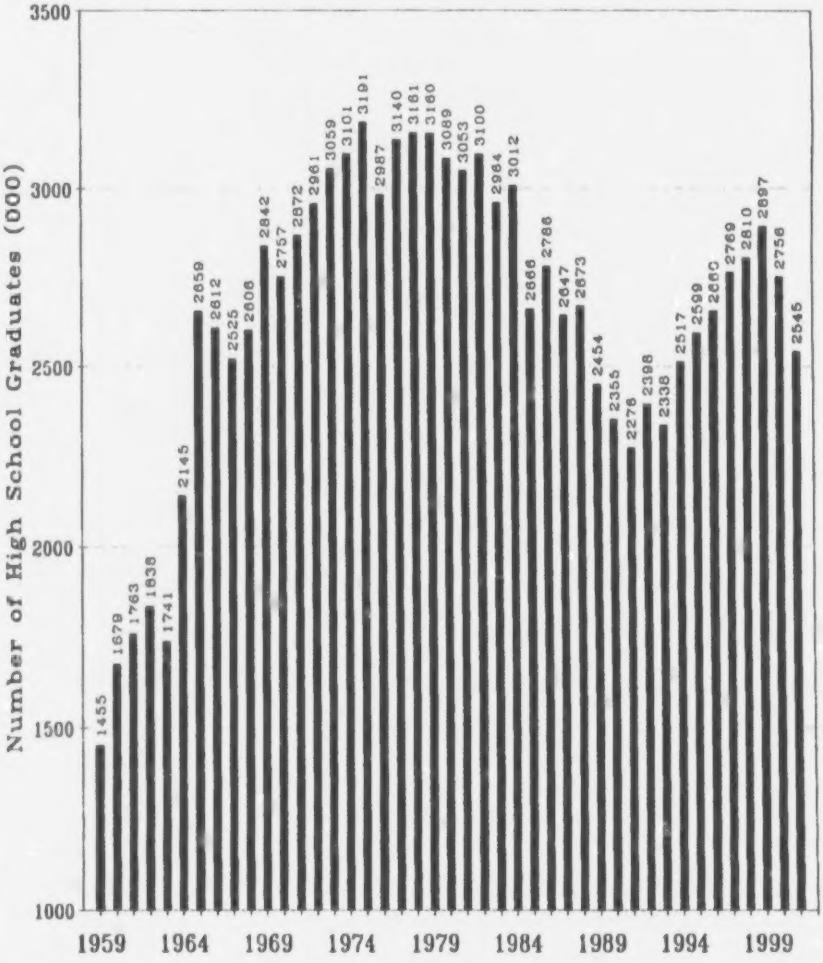
The core CPS survey is administered each month and focuses on employment and unemployment. Monthly supplements collect additional data. The October supplement collects data on school enrollment, and the March supplement gathers data on educational attainment. The Census Bureau publishes reports from these surveys that are available on their website. The school enrollment reports are available at:

http://www.census.gov/population/www/socdemo/school.html

The educational attainment reports are available at:

http://www.census.gov/population/www/socdemo/educ-attn.html

High School Graduates
1959 to 2001



High School Departure

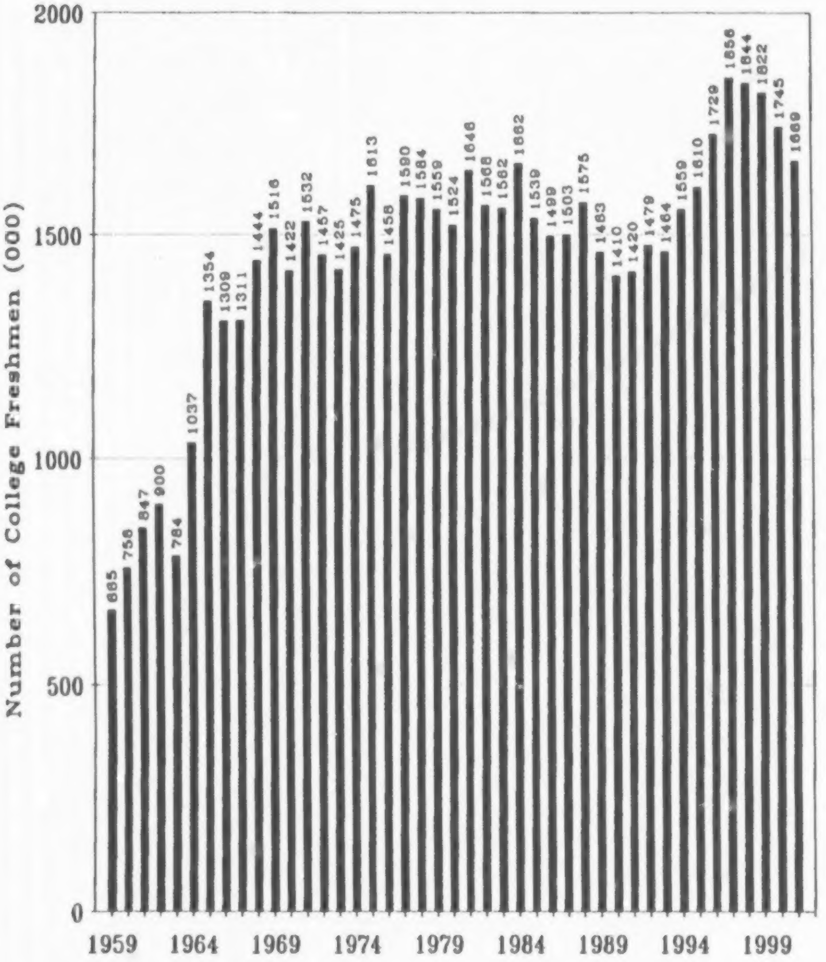
In October 2001, 3,051,000 people had left high school during the previous year. Of this total, 2,545,000 left high school as graduates. This was 83.4 percent of the total. The remaining 506,000 left high school as dropouts. This was 16.6 percent of the total.

Dropouts. The dropout rates in 2001 for the major population groups were as follows:

Men	18.9%
Women	14.0%
White	16.4%
White, non-Hispanic	13.5%
Black	17.8%
Hispanic	33.1%
Other race	16.0%

Since 1974 the proportion of high school departures as dropouts has generally declined, from a peak of 20.7 percent in 1977 to a low of 14.3 percent in 1991. Since then, however, the share of leavers as dropouts has gradually increased to 16.6 percent in 2001.

These rates may be converted to students. Each one percent change in the departure rate (either as dropouts or graduates) equaled about 30,500 students. So the 2.3 percent increase in the dropout share of high school departures between 1991 and 2001 means that about 70,000 more students left high school as dropouts in 2001



College Freshmen Who Were Recent High School Graduates
1959 to 2001

compared to the rate a decade earlier.

Graduates. Among high school departures, the complement to high school dropouts are graduates. Since 1974 the share of departures as graduates has increased from 79.3 percent in 1977 to a peak of 85.7 percent in 1991, and by 2001 had dropped back to 83.4 percent.

High School Graduates

In October 2001 the Current Population Survey found 2,545,000 high school graduates who had been enrolled in high school the previous year. This number is down sharply from 2,756,000 in 2000 and 2,897,000 in 1999. These data are shown in the chart on previous page.

This decline is perplexing, indeed. Eighteen years earlier the number of live births increased from 3,629,000 in 1981, to 3,681,000 in 1982, to 3,639,000 in 1983. Between 1981 and 1983 the number of live births increased by 10,000, but 18 years later the number of high school graduates decreased by 352,000.

If these data are to be believed, something has gone seriously wrong in high school graduation between 1999 and 2001. Of the 352,000 decrease in high school graduates, only about 40,000 can be accounted for through increased high school dropouts between 1999 and 2001. A few more could have left the civilian, noninstitutional population by entering the military or being incarcerated. But this is not likely since the drop is among both males and females. Frankly, this decline remains to be explained, perhaps with subsequent data yet to be collected. Or it may be the result of sampling variability which is endemic to the Current Population Survey.

College Freshmen

In October 2001 there were 1,569,000 college freshmen who had graduated from high school during the previous academic year. This number was down sharply from 1,745,000 the previous fall, and from the peak of 1,856,000 reached in 1997.

This decline too is profoundly troubling. Eighteen years earlier, between 1979 and 1983, the numbers of live births increased from 3,494,000 to 3,639,000--an *increase* of 4.1 percent. Then, eighteen years, the number of freshmen from this cohort reported entering college directly after high school *declined* by 15.5 percent. This disparity is so stunning as to leave us grasping for answers.

- The onset of the decline predates the recent economic recession and terrorist attacks.
- The onset of the decline predates the decline in the number of high school graduates.

Are more students delaying their entry into college after high school? Yes, according to the annual UCLA survey of American college freshmen. Particularly at universities and 4-year colleges, the share of first-time, full-time freshmen who are 18 years old has shrunk while the share that are 19 has increased.

- At universities the share of freshmen that are 18 has declined from 75.2 percent in 1990 to 67.7 percent by 2001. The proportion that are 19 has increased from 20.8 to 29.2 percent during the same period.
- At 4-year colleges the share of freshmen that are 18 declined from 71.6 to 67.9 percent between 1990 and 2001. The 19 year old share increased from 23.0 to 28.4 percent.

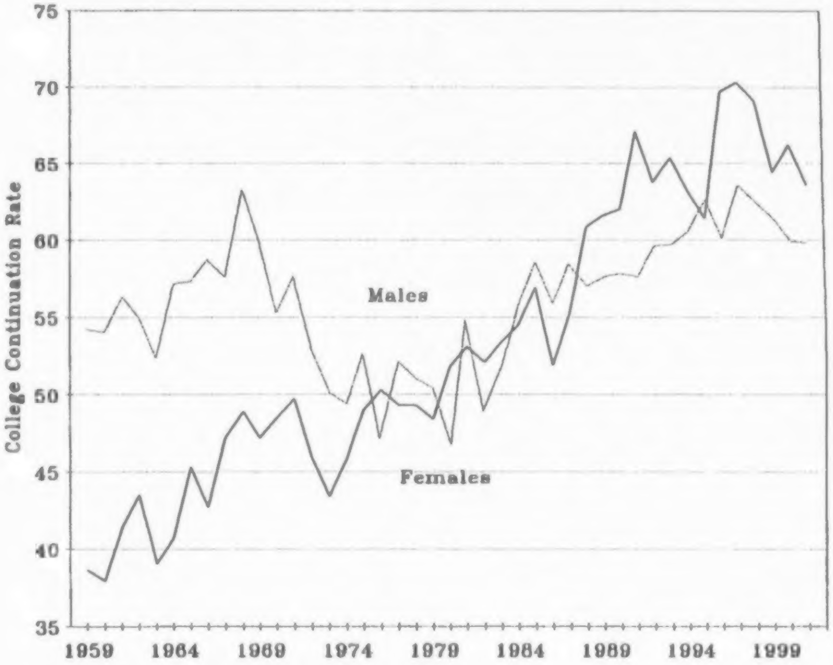
Similar trends are not evident among first-time, full-time freshmen entering black colleges nor 2-year colleges.

We also hear reports that the line between high school and college may be blurring. In particular some high school students are taking college courses under dual enrollment. Thus, after they graduate from high school these students may enter college with advanced standing status. This is reported to be a problem by higher education institutions completing IPEDS enrollment survey forms for the National Center for Education Statistics. We have seen no data to measure this.

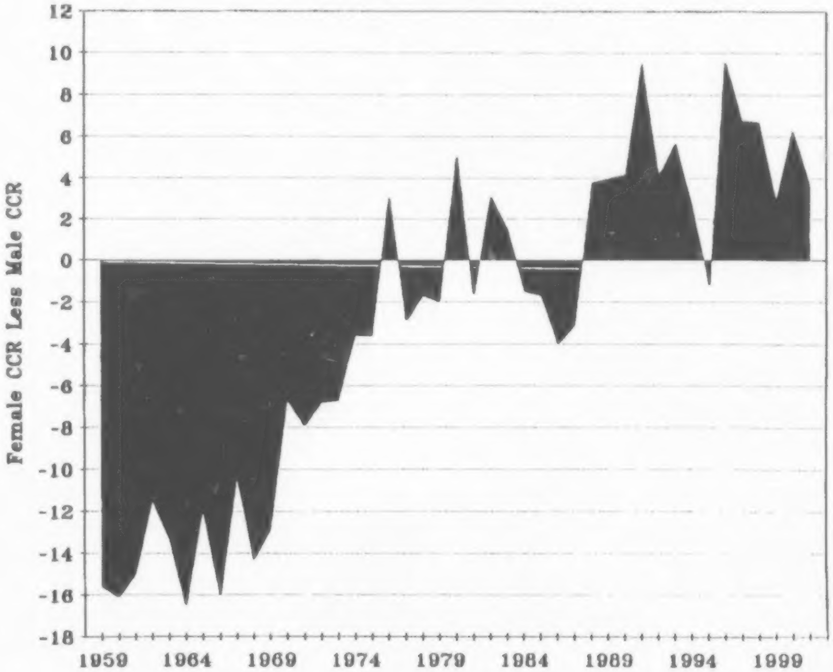
College Continuation Rates

In October 2001, there were 1,569,000 college freshmen out of the 2,545,000 who had graduated from high school in the class of 2001. The ratio of the number of college freshmen who were recent high school graduates to the number of high school graduates is the college continuation rate (CCR). In 2001 this rate was 61.7 percent.

College Continuation Rates by Gender
for Recent High School Graduates
1959 to 2001

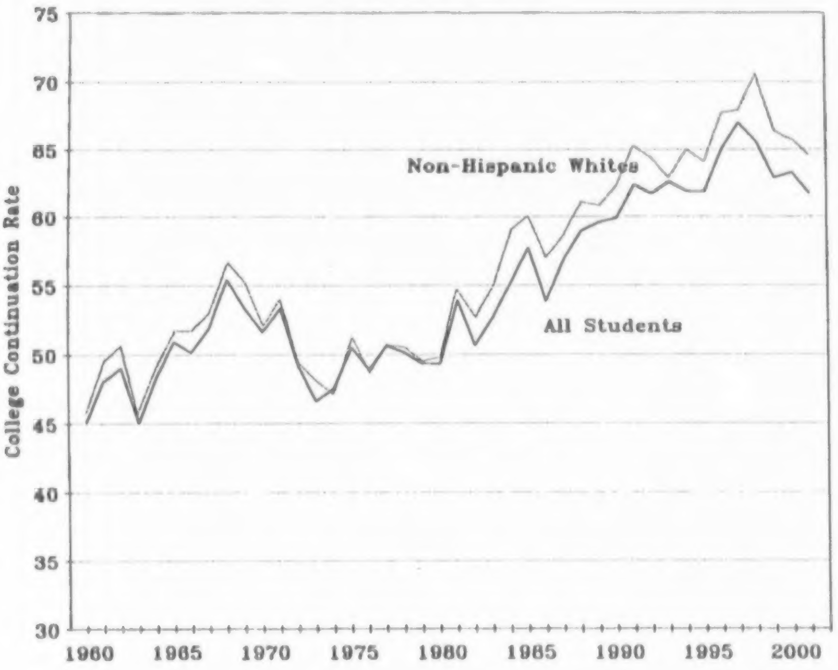


Difference Between College Continuation Rates by Gender
for Recent High School Graduates
1959 to 2001

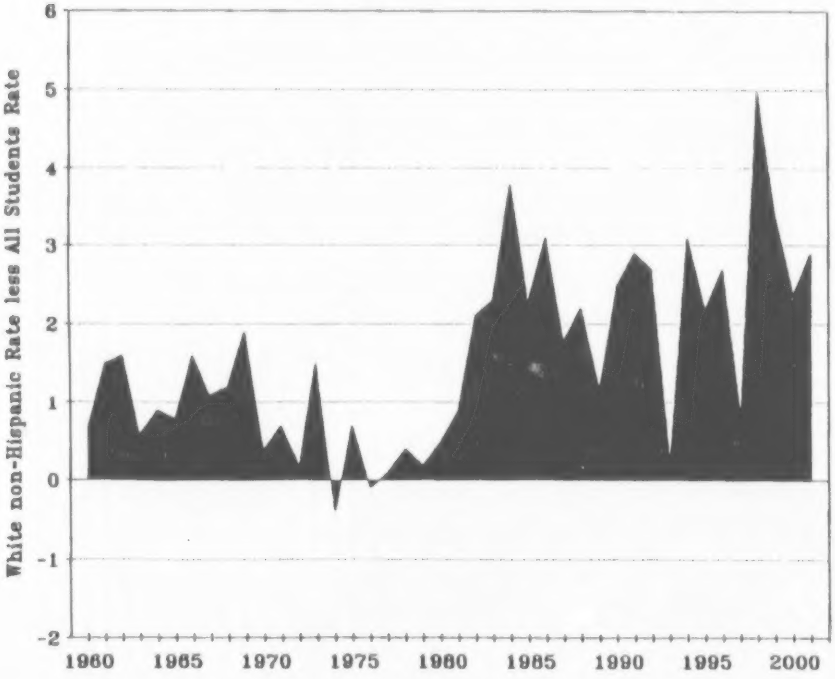


The college continuation rate in 2001 was down from 63.3 percent a year earlier and well below the peak of 67.0 percent reached in 1997. If the high school class of 2001 had enrolled

College Continuation Rates for All Students
and White Non-Hispanic High School Graduates
1960 to 2001



Difference Between White non-Hispanic and All Students
College Continuation Rates
1960 to 2001



in college by October at the 1997 rate, about 136,000 more would have been enrolled in college.

As shown in the chart on page 1, the college continuation rate increased sharply between 1973 and 1991, rising from 46.6 to 62.4 percent. But the long-term growth pattern stopped in the 1990s. The CCR held at about 62 percent for five years between 1991 and 1995, then jumped sharply to a peak of 67 percent in 1997, and has since declined to 61.7 percent in 2001.

The 2001 college continuation rate is below the rate in 1991, a decade earlier. That means that the many major higher education incentives enacted after 1991 have produced no measurable increase in the college continuation rate behavior of recent high school graduates. As measured in these Current Population Survey data, the college continuation rate actually declined by 0.7 percent between 1991 and 2001.

Gender

The charts on page 5 show the college continuation rates for recent male and female high school graduates. In 2001 the CCR for males was 59.8 percent and for females was 63.6 percent.

For both men and women, college continuation rates have been in steady and substantial decline since 1997. For males the decline has been from 63.5 to 59.8 percent, a decline of 3.7 percentage points. For females the decline was from 70.3 to 63.6 percent, or 6.7 percentage points.

The difference between the female and male college continuation rates is shown on the second chart on page 5. In the early 1960s the female CCR was 12 to 16 percent below the male rate. Then the gap closed in the early 1970s, and remained about equal until the late 1980s. Since the mid 1990s, the female CCR has averaged 4 to 8 percentage rates above the male rate.

Race/Ethnicity

Our analysis of college continuation rates converts CPS racial/ethnic groups (white, black and Hispanic) into four distinct groups: white non-Hispanic, black, other race (mainly Asian) and Hispanic. This breakdown provides more useful information and insight into the experiences of different population groups. The college continuation rates for each group are compared to the rate for the population over the years of available data.

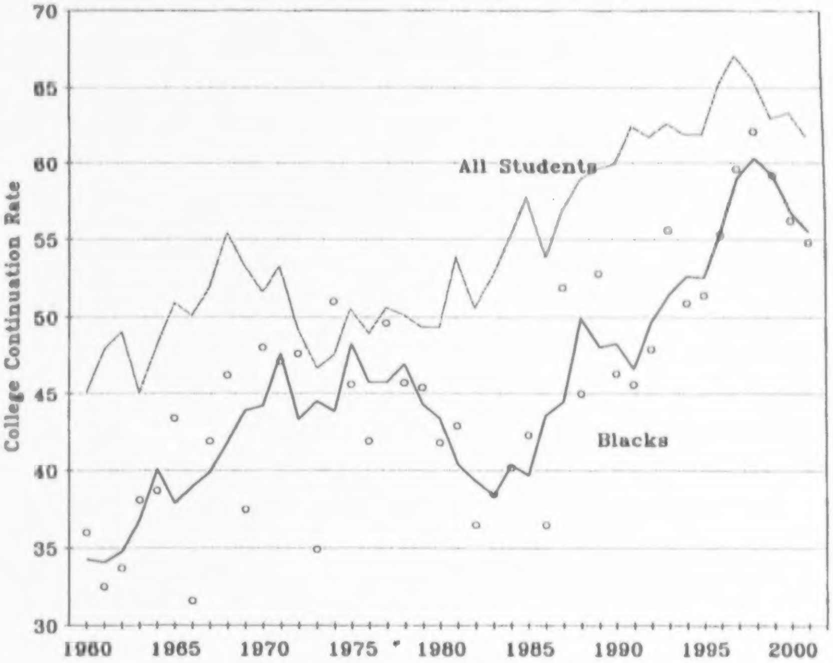
White non-Hispanic. The college continuation rate for non-Hispanic whites is shown in the top chart on page 6. Generally this rate tracks very closely with the CCR for the population because non-Hispanic whites comprise by far the largest share of the population--71 percent in 2001. However, the dominance of non-Hispanic whites is shrinking. In 1976 it was 83 percent.

In 2001 the CCR for white non-Hispanics was 64.6 percent, compared to 61.7 percent for the population. The difference was 2.9 percent. In the 1960s non-Hispanic whites had about a one percent advantage over the population in college continuation rates. This advantage dropped to about zero in the 1970s, but has risen to about two percent in the 1980s and 1990s.

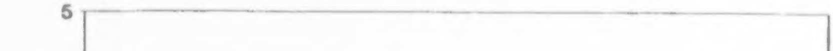
Blacks. The charts on this page show the college continuation rate experience for blacks and compared to the population over the last four decades. In 2001 the CCR for blacks was 54.8 percent, compared to 61.7 percent for the population.

The college continuation rate for recent black high school graduates has been in decline since 1998. Then it stood at a peak of 62.1 percent. Thus

College Continuation Rates for All Students and Black Recent High School Graduates 1960 to 2001



Difference Between Black and All Students College Continuation Rates 1960 to 2001



it has declined by 7.3 percent between 1998 and 2001.

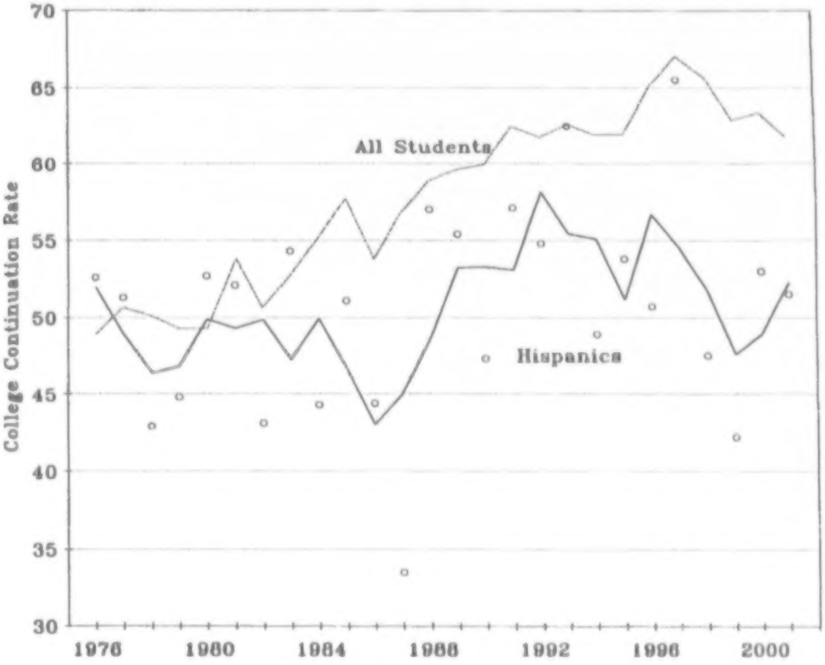
The second chart on page 7 describes the history of college continuation for black recent high school graduates. During the 1960s blacks lagged the population by 8 to 14 percent. Then during the 1970s this gap closed to about three percent. But in the 1980s and early 1990s the gap reopened, to 10 to 15 percent. Since the early 1990s the gap has closed again, and in 2001 the CCR for blacks lags the rate for the population by about 7 percent.

Hispanics. Data on Hispanics are only available since 1976 when they became measurable in the Current Population Survey sample. In 2001 there were 241,000 Hispanic high school graduates, of whom 124,000 were enrolled in college by October. The college continuation rate was 51.5 percent.

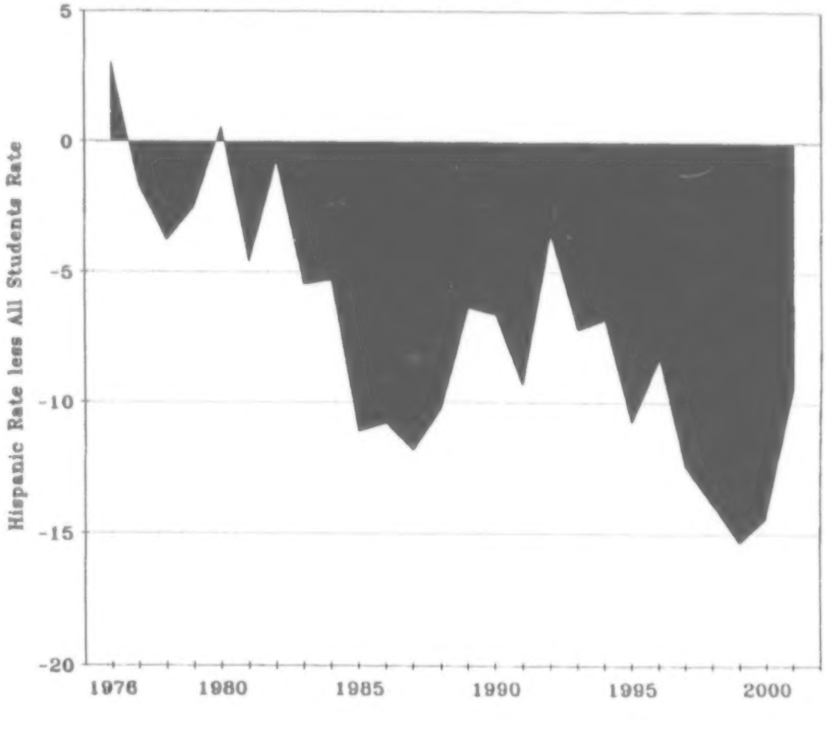
The Hispanic data are the most troublesome of the groups under study here. Not only have Hispanics grown as a share of the high school graduates--from 5.1 percent in 1976 to 9.5 percent by 2001--but their college continuation rates have been stagnant for twenty-five years and have fallen far behind those of the population. In 1976 the Hispanic CCR was above the rate for the population. By 2001 it was 10.2 percent below the population CCR. In effect, the United States is replacing non-Hispanic whites with high college continuation rates with Hispanics with much lower college continuation behaviors. In the Human Capital Economy, this cripples the educational attainment of the workforce on which the Human Capital Economy rests.

Clearly the Hispanic community is diverse and changing. In 1976 it was more likely to be Cuban, and today about 65 percent of Hispanics are from Mexico. However, the Human Capital Economy cares nothing about

College Continuation Rates for All Students and Hispanic Recent High School Graduates 1976 to 2001



Difference Between Hispanic and All Students College Continuation Rates, 1976 to 2001



origin--only education and training. The demand for college-educated labor continues to grow, but the lack of growth in the Hispanic population will leave a growing share out of the best paying jobs available in the Human Capital Economy.

Other race. We derive data for those of other race, who are mainly Asian but include American Indians, by subtracting white and black from totals. The numbers are small, but they tell an impressive story, at least until 2001.

In 2001 there were 105,000 high school graduates that were not white or black. Of these 62,000 were enrolled in college in the fall of 2001. The college continuation rate was 59.0 percent.

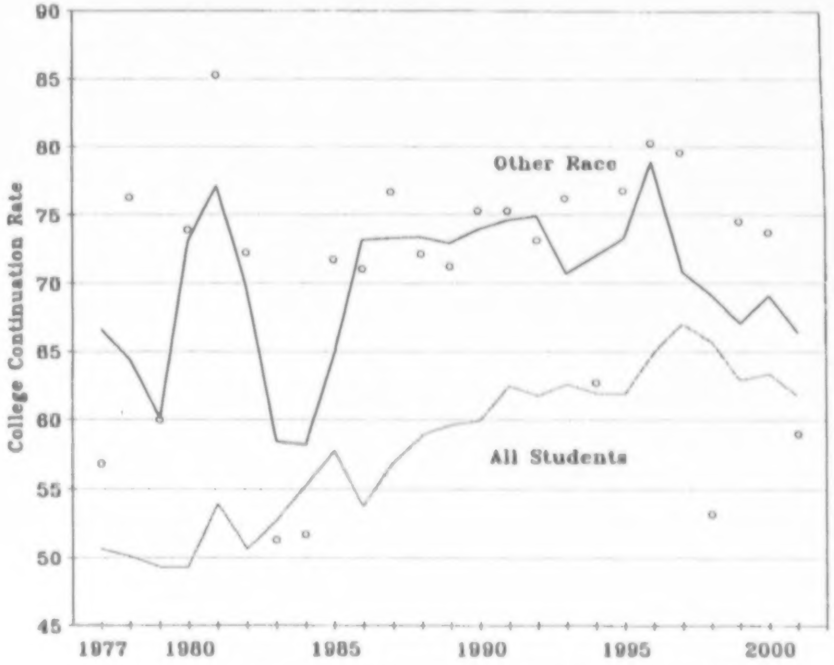
While the 2001 CCR for those of other race was below the population rate (61.7 percent), historically this rate has been more than 10 percent above the CCR for the population. Smoothing out statistical spikes in the data, the CCR for other race has averaged about four percent above the population rate for the last five years. While more observations will help clarify this picture, assimilation of immigrant populations may explain a part of the decline in the advantage of Asian students compared to the population.

Enrollment Status

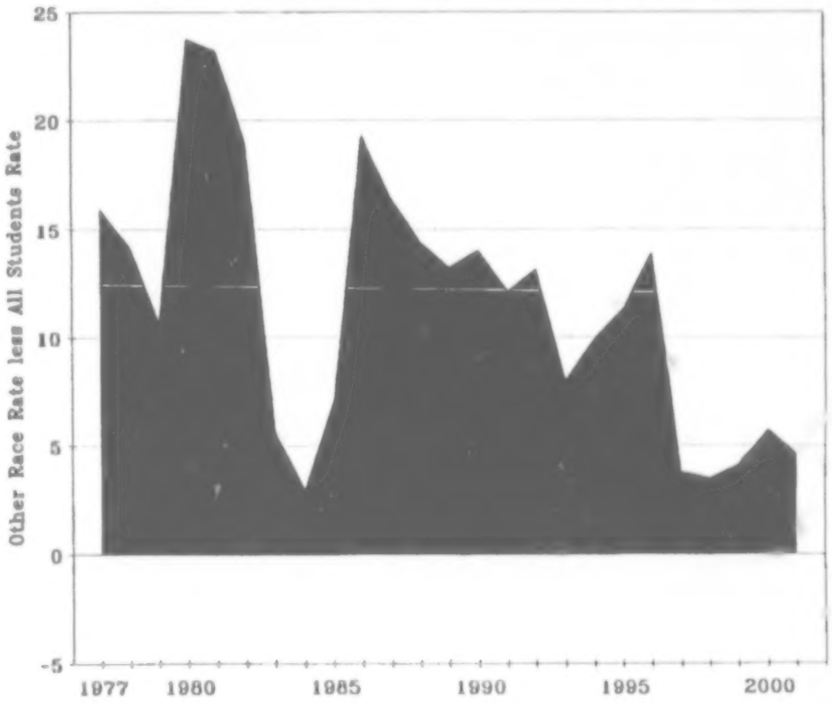
In 2001 about 91 percent of college freshmen who were recent high school graduates were enrolled in college full-time. This is one of the constants of these data, having ranged from 90 to 93 percent for more than two decades.

But prior to the mid 1970s, closer to 95 percent of all freshmen who had graduated from high school in the same year were enrolled full-time. The freshmen of the last generation

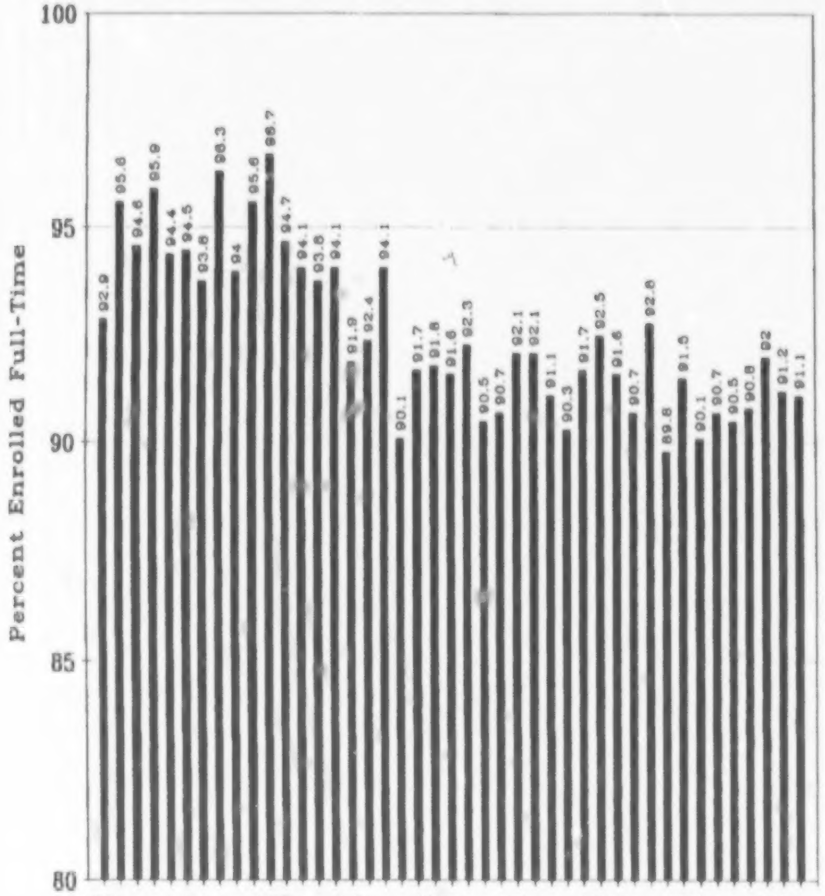
College Continuation Rates for All Students and Other Race (mainly Asian) Recent High School Graduates 1977 to 2001



Difference Between Other Race (mainly Asian) and All Students College Continuation Rates, 1977 to 2001



Full-Time Enrollment Share of College Freshmen Who Were Recent High School Graduates 1959 to 2001



are somewhat less likely to pursue college immediate after high school on a full-time basis, but not much so.

Institutional Level

The Bureau of Labor Statistics has reported data on institutional level since 1991. In October 2001, of the 1,569,000 college freshmen who were recent high school graduates, 1,069,000 or 68.1 percent were enrolled in 4-year colleges and 31.9 percent were enrolled in 2-year colleges.

Since 1991 there has been a steady shift in freshmen enrollment from 2-year to 4 year institutions. The share entering 4-year institutions has increased steadily from 60.1 percent in 1991 to 68.1 percent in 2001. The share entering 2-year colleges has shrunk steadily from 39.9 percent in 1991 to 31.9 percent in 2001.

Labor Force Participation

Although we will report on the labor force participation (employed, unemployed) in more detail in a later issue of OPPORTUNITY, the 2001 report is significant because of the recession and recent terrorist attacks.

Employed. In October 2001, 40.1 percent of the college freshmen who were recent high school graduates were employed. This was down sharply from the mid 40s rates of the three previous years, 1998 to 2000. However, the 2001 rate was very similar to the rate of employment of freshmen from 1986 through 1997.

The proportion of freshmen who were employed were as follows:

2-year colleges	62.7%
4-year colleges	29.6%
Full-time students	36.1%
Part-time students	82.0%
Men	37.1%
Women	43.0%
White	41.7%
Black	32.5%
Hispanic	49.3%

Unemployment. In October 2001 the unemployment rate for college freshmen was 14.3 percent. This was more than twice the unemployment rate a year earlier. For the different population groups of college freshmen, the 2001 unemployment rates were:

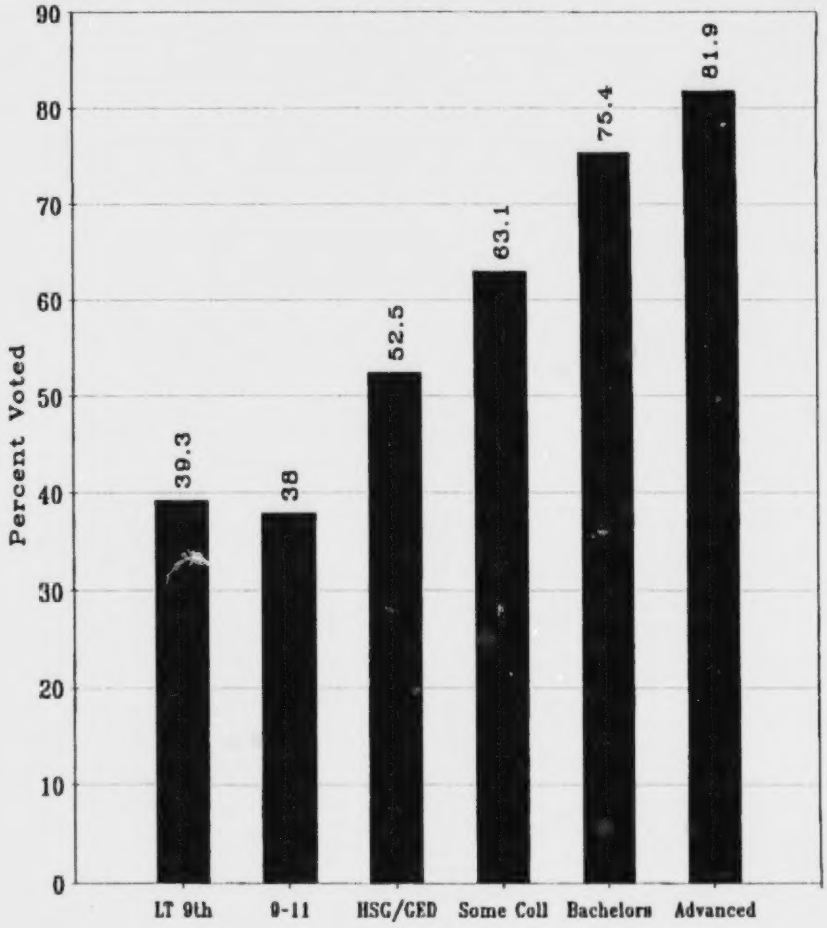
2-year colleges	12.4%
4-year colleges	16.2%
Full-time students	15.9%
Part-time students	6.3%
Men	12.5%
Women	15.8%
White	13.9%
Black	19.0%
Hispanic	22.5%

Overall, the data reported by the Bureau of Labor Statistics portray a very disturbing pattern of college continuation by recent high school graduates:

- The college continuation rate in 2001 was below the rate for 1991.
- The number of high school graduates has declined sharply for the last two years while live births 18 years earlier were increasing.
- The number of college freshmen has declined for the last five years while the number of live births 18 years earlier was increasing.

Voting Rates by Educational Attainment 1964 to 2000

Voting Rates for Citizens by Educational Attainment in the 2000 Presidential Election



Source: Census Bureau

At the time of the presidential election in November 2000, there were 202,609,000 people in the U.S. who were age 18 years and over.

- Of these, 186,366,000 or 92 percent were citizens.
- Of these citizens 129,549,000 were reported registered to vote. Just 70 percent of citizens had bothered to register.
- Of those who registered, 110,826,000 reported that they voted in the election. This was 86 percent of those registered.

Thus, 55 percent of the adult population actually voted in the election.

But wait: it gets better. President Bush won the 2000 presidential election with 50,455,000 votes. This was 537,000 fewer votes than Albert Gore received. But in the state of Florida, Mr. Bush received 2,912,790 votes for president, while Mr. Gore received 2,912,253--or 537 less, and under election rules Mr. Bush won the electoral vote for president. Thus, 537 Florida voters selected the president for 202,609,000 adults.

One generalization may be that many Americans do not take their civic responsibility to select their leaders very seriously. But some do, while others do not. Among citizens who could have voted in the 2000 presidential election:

- 58.1 percent of men voted, compared to 60.7 percent of women.
- 36.1 percent of 18 to 24 year olds voted, compared to 72.2 percent of those age 65 to 74 years.
- 67.7 percent of those who are married with spouse present voted, compared to 44.0 percent of those who have never married.
- 61.8 percent of non-Hispanic whites voted, compared to 56.8 percent of blacks, 43.3 percent of Asians and 45.1 percent of Hispanics.
- 34.2 percent of those with annual family incomes of less than $5000 voted, compared to 74.9 percent of those with incomes over $75,000.
- 39.8 percent of the unemployed voted, compared to 60.5 percent of the employed.
- 43.8 percent of renters voted, compared to 64.7 percent of those who owned their homes.
- 60.5 of those in the Northeast voted, compared to 63.2 percent in the Midwest, 57.2 percent in the South and 58.1 percent in the West.

More central to our analysis here, however, is how voting rates varies by educational attainment. As the chart on this page shows, voting rates do vary sharply with educational attainment. In the Presidential Election year of 2000, the voting rates for citizens ranged from 38 percent of those who started but did not complete high school, to nearly 82 percent for those with advanced degrees from college.

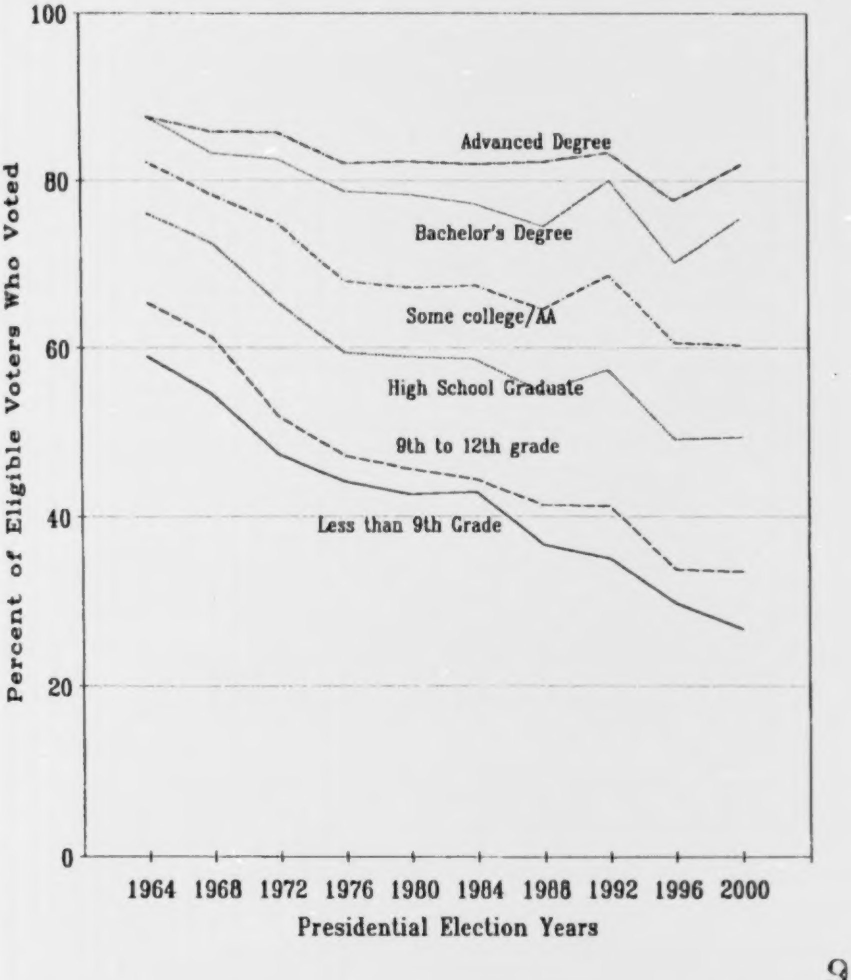
It is this pattern of civic engagement through the act of voting in elections that is the focus of this analysis. To make democracy represent the interests of citizens, people must vote. Our founding fathers understood this clearly. Moreover, they understood that the electorate needed to be educated to understand the choices that voting required. Most public policy choices involve conflicting interests, information, claims, ideology, positions and characters. Better educated voters are more likely to be able to discern their self-interests and be effectively represented by political leadership if they understand the consequences of the choices they make in the voting booth.

The Data

Most of the data used in this analysis was collected by the Census Bureau in the November 2000 Current Population Survey (CPS). Census has used the CPS to collect data on voters since the 1964 presidential election. These reports and compilations of historical data are available on the Voting and Registration page of the Census Bureau's website at:

http://www.census.gov/population/www/socdemo/voting.html

Every month the CPS is administered to a nationally representative sample of roughly 50,000 households. Each month data are gathered on household members on employment and unemployment. Beginning in 1964 and every four years thereafter the November CPS has added questions on voting following presidential elections. Beginning in 1996 and every four years thereafter these voting surveys have been conducted following congressional elections.


Voting Rates in Presidential Elections
by Educational Attainment
1964 to 2000

Citizenship. Because voting is limited to citizens our analysis is limited to voting rates for citizens, not the population. In November 2000, of the 202,609,000 people in the population who were age 18 and over, 186,366,000 were citizens and eligible to register and vote. 16,243,000 were not citizens.

The question of citizenship is especially important in analyzing voting behavior by race and ethnicity. In November 2000, the proportion of the population age 18 and over of each racial/ethnic group that was a U.S. citizen was as follows:

white non-Hispanic	97.8%
black	94.3%
Asian/Pacific Islander	58.7%
Hispanic	60.9%

Of the 16,243,000 non-citizens, 20.3 percent were white non-Hispanic, 8.5 percent were blacks, 20.5 percen were Asian/Pacific Islanders, and 52.0 percent were Hispanics.

Thus, in our analysis we limit the

calculation of voting rates to those for citizens (unless noted otherwise).

Voting Rates

In October 2000 110,826,000 people voted in the presidential election out of 186,366,000 citizens. So the voting rate was 59.5 percent.

The 2000 voting rate was up from the 1996 rate of 58.4 percent. But it was well below the voting rates for prior presidential elections:

1980	64.0%
1984	64.9%
1988	62.2%
1992	67.7%

The 1996 and 2000 presidential elections recorded the lowest voting rates for citizens on record.

Educational Attainment

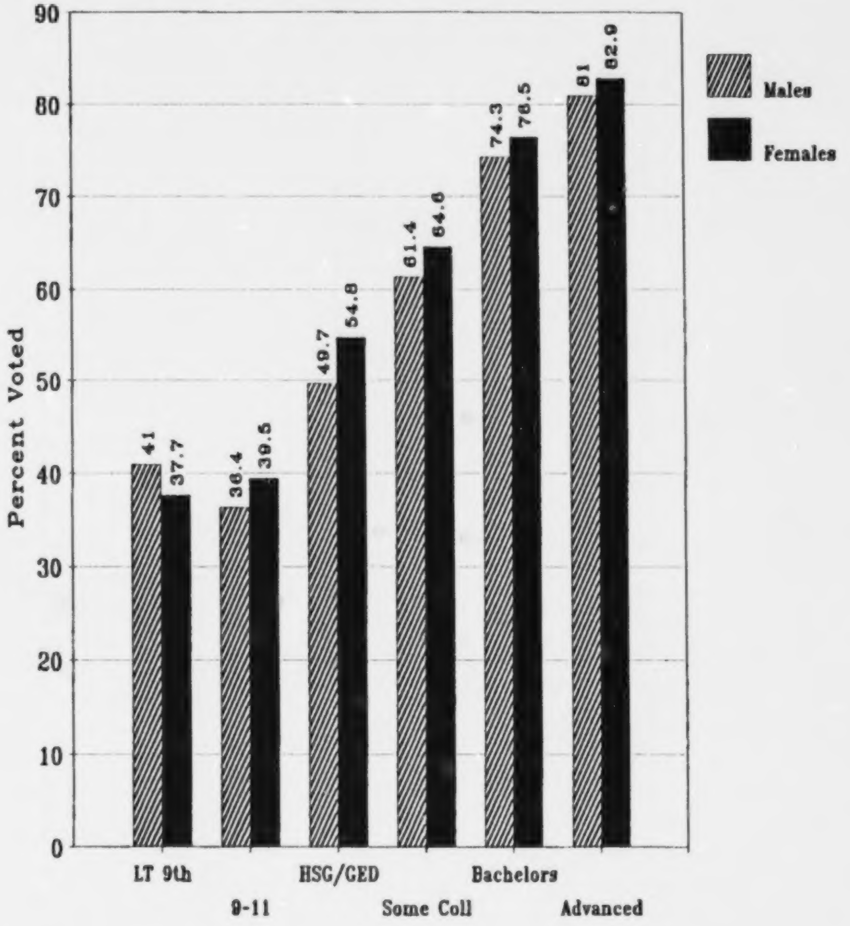
Voting rates for citizens by educational attainment in the 2000 presidential election are shown in the chart on page 11. They ranged from 38.0 percent for those with some high school but no diploma (or GED), to 81.9 percent for those with post-baccalaureate degrees from college.

Of those who voted, 9.2 percent had less than a high school education, 29.5 percent were high school graduates only, 30.1 percent had some college or an associate degree, 20.4 percent had a bachelor's degree and 10.7 percent had an advanced degree.

Trends. The chart on page 12 shows voting rates for the population (citizens plus non-citizens) since 1964. (Data on citizenship were not collected until 1980.) While these rates have declined at all levels of educational attainment, the decline has been least at the highest levels of educational attainment, and greatest at the lowest levels. Between 1964 and 2000, voting rates changed as follows:

Less than 9th grade	-32.2%
9th to 12th grade	-31.8%
High school graduate/GED	-26.7%
Some college/associate	-21.8%
Bachelor's degree or more	-15.5%

Voting Rates for Citizens by Educational Attainment and Gender in the 2000 Presidential Election

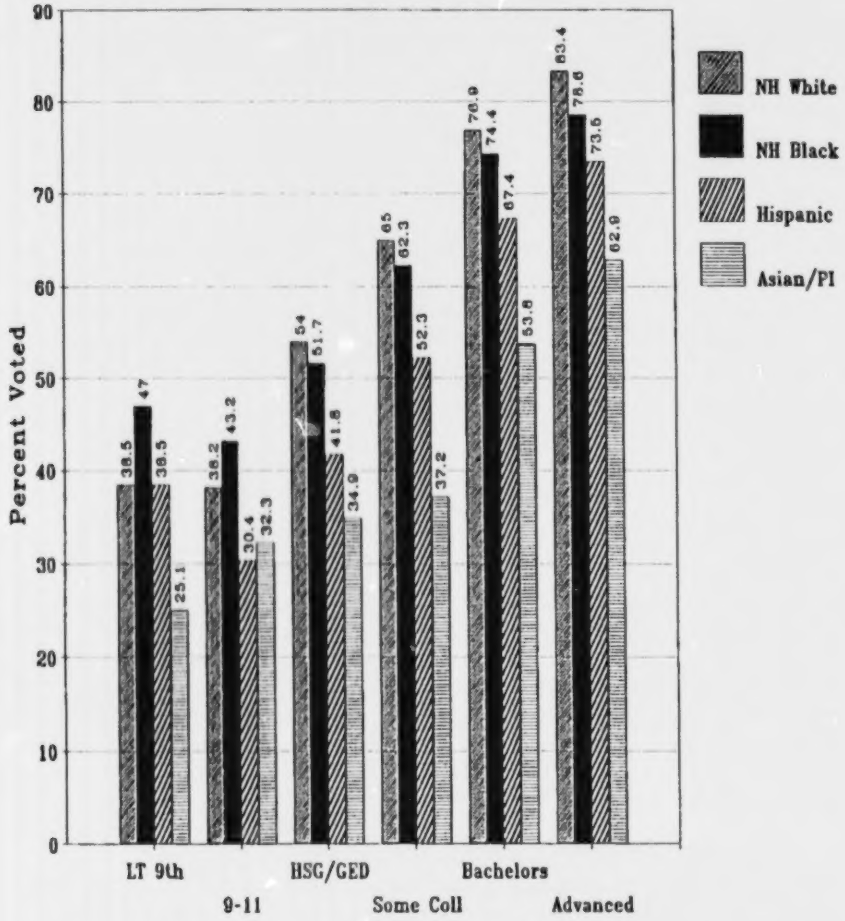


Source: Census Bureau

Gender. In the 2000 presidential election, 58.1 percent of the men who were citizens voted, compared to 60.7 percent of the women. Between 1964 and 2000, the voting rate for males in the population (citizens plus non-citizens) declined by 18.8 percent, from 71.9 to 53.1 percent. During the same period, the voting rate for women declined by 10.8 percent, from 67.0 to 56.2 percent. Until the 1980 election, men voted at higher rates than did women. In 1980 women voted at higher rates than did men for the first time, and since then women have pulled further away from men.

In the 2000 election, women citizens age 18 and over were more likely to have voted than were men at nearly every level of educational attainment. The difference was greatest among high school graduates and those with some college education or an associate's degree. Only among adults with less than a ninth grade education were men more likely to have voted than were women.

Voting Rates for Citizens by Educational Attainment and Race/Ethnicity in the 2000 Presidential Election



Source: Census Bureau

Race/ethnicity. As noted earlier the proportion of whites and blacks that are citizens is far higher than are the proportions of resident Hispanics and Asian/Pacific Islanders. However, even when citizenship is controlled, whites and blacks have far higher voting rates than do Hispanics and Asian/Pacific Islanders at nearly all levels of educational attainment.

In the 2000 presidential election, for all groups voting rates for citizens increased with educational attainment. Blacks voted at the highest rate at educational attainment levels of high school graduate or below. Whites voted at the highest rates at all higher levels of educational attainment. Blacks and whites were first or second in voting rates at all educational attainment levels.

Hispanics and especially Asians voted at far lower rates than whites and blacks at all levels of educational attainment. Asians, in particular, lagged even Hispanic voting rates by a substantial margin. (This was also true in the 1998 congressional election.)

Reasons for Not Voting

Of the 202,609,000 people age 18 and over in November 2000, 186,366,000 were citizens and eligible to vote. 129,549,000 registered to vote. But only 110,826,000 did so.

56,817,000 citizens did not even bother to register to vote, although in some states they could have done so at the voting station.

That leaves 18,723,000 citizens who registered to vote but did not do so. Of those who registered to vote after January 1, 1995, the most common forms of registration were:

With a driver's license	35.2%
Government registration office	15.8%
Mailed form to election office	10.8%
Registration booth	10.4%

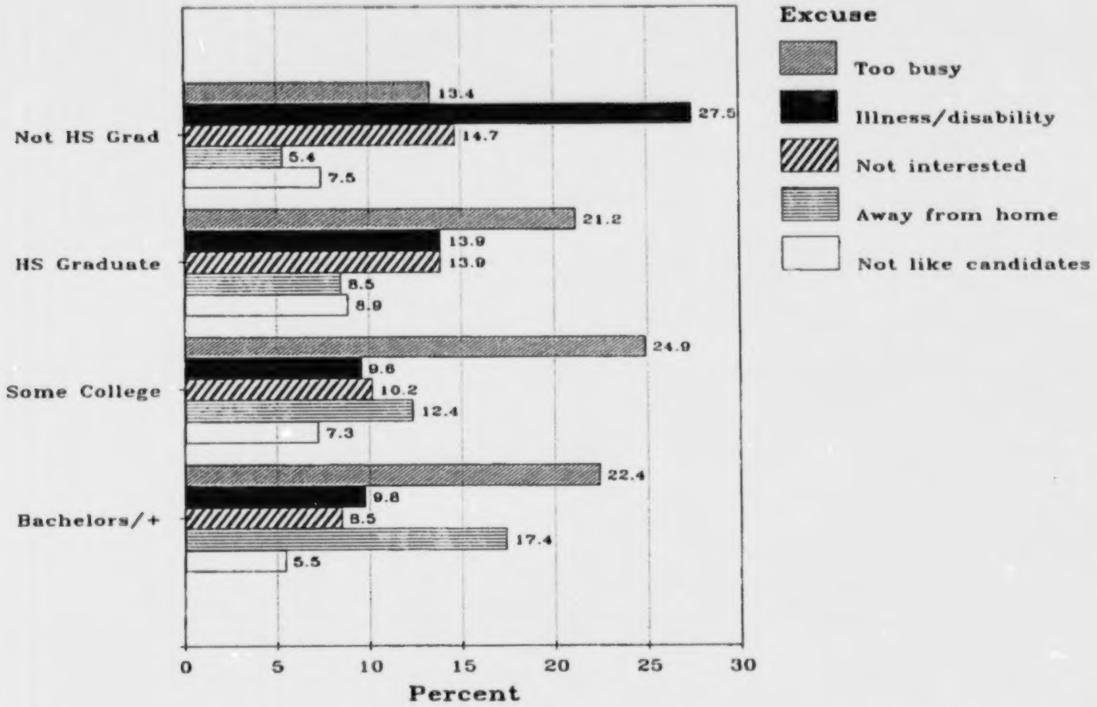
The excuses offered by registered non-voters focus heavily on being too busy/conflicting schedule, illness/disability, not interested/felt vote would not make a difference and out of town/away from home. Of course these excuses don't hold water:

- *Busy/conflicting schedule:* polls open early, stay open late, and absentee voting is always available.
- *Illness/disability:* Absentee voting.
- *Not interested:* Never complain about government or taxes again.
- *Felt vote would not make a difference:* Does not read newspapers about what happened in Florida.
- *Out of town/away from home:* Absentee ballot.

Because college-educated voters vote at much higher rates than do people without college educations, the excuses of the 2,564,000 registered citizens with bachelor's degrees or more who did not vote in November 2000 may be insightful:

Too busy/conflicting schedule	22.4%
Out of town/away from home	17.4%
Registration problems	11.7%
Other reason/not specified	10.5%

Excuses of Registered Voters for Not Voting in the November 2000 Presidential Election by Educational Attainment



Illness/disability	9.8%
Not interested	8.5%
Did not like candidates/issues	5.5%
Inconvenient polling conditions	3.0%

Sacrifices of Others

We continue to be amazed at the excuses of citizens who do not vote. In the past we have called these people civic derelicts. On this occasion while our country is again at war and in light of the long-term decline in voting rates in the United States, we offer another perspective on the commitment and sacrifices of citizenship: those who gave their lives for our country.

According to various sources (including the Department of Veterans Affairs), at least 42,348,460 have served in the military during war since the American Revolution. of these, 1,192,694 died in battle and 597,946 died in non-theater service. Thus, a total of 1,790,640 have died in military service during war time. At least 1,431,290 received non-mortal wounds.

By war, here are the numbers who have died in America's wars:

Battle Deaths	Other Deaths	Total Deaths
American Revolution (1775-1783):		
4,435		4,435
War of 1812 (1812-1815):		
2,260		2,260
Indian Wars (1817-1898):		
1,000		1,000
Mexican War (1846-1848):		
1,733	11,550	13,283
Civil War (1861-1865):		
110,070-Union	249,458	359,528
74,524-Confed.	124,000	198,524
Spanish-American War (1898-1902):		
385	2,061	2,446
World War I (1917-1918):		
53,513	63,195	116,708
World War II (1940-1945):		
292,131	115,185	407,316
Korean War (1950-1953):		
33,686	20,560	54,246
Vietnam War (1964-1975):		
47,410	10,788	58,198
Gulf War (1990-1991):		
148	1,149	1,297

Along side these ultimate sacrifices, the excuses of being too busy, not interested, being away from home or not liking candidates sound trivial.

Conclusion

This has been an analysis of voting rates by educational attainment. The core finding is that those with more education are more likely to vote than are those with less education. This finding holds for men and women, for whites, blacks, Hispanics and Asians. It holds at every age level (data not presented here).

Our founding fathers chose a democratic form of government with ultimate authority held by its citizens. We exercise that authority at election time. We hold regular and frequent elections wherein citizens exercise their voting rights to select our representatives that will make the decisions required by government.

Most of us exercise our self-governance authority at election time. But many of us do not. Educational attainment plays a major role in the exercise of our voting rights.

At one level the data simply say more educated citizens are more likely to vote than are less educated citizens. This finding holds throughout the population. Moreover, since 1964 voting rates have declined least for the best-educated, and most for the least-educated among us.

But at another level--engagement in democratic opportunities, exercising self-governance rights, and fulfilling responsibilities of citizenship--these data tell a disturbing story about engagement in and disengagement from democratic government. Those who believe they have the most at stake are most engaged. Those who believe government does not serve their interests are least engaged.

The perception that government exists to serve some while ignoring others is corrosive to democracy. In the preceding chart, of those who did not vote, those most likely to cite "not interested, felt vote would not make a difference" were those with the least education. Those with the most education were least likely to cite this as their reason for not voting. When elections become auctions--as they are perilously close to becoming in the United States--those with the most will have the clearest interest and loudest voice in selecting political leadership. Others with less will see their interests less clearly in elections and will find more excuses to not vote in elections.

Voting is the least demanding of civic obligations. It is far less onerous than paying taxes, performing military service or serving on juries. Come November this year we will again have the chance in congressional elections to choose our representatives to Congress, two-thirds of us will choose our senators, and all of us will select state-level political leaders.

But with history as our guide, some of us are more likely to vote than are others. And it is mostly those who vote who are heard and whose interests are reflected in the political decisions of those we elect.

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Postsecondary Education
OPPORTUNITY
The Environmental Scanning Research Letter of Opportunity for Postsecondary Education

Number 121 **www.postsecondary.org** **July 2002**

State Priorities . . . *. . . and Behaviors*

State Appropriations, Public Institution Tuition Rates and State Student Financial Aid Appropriations FY1975 to FY2002

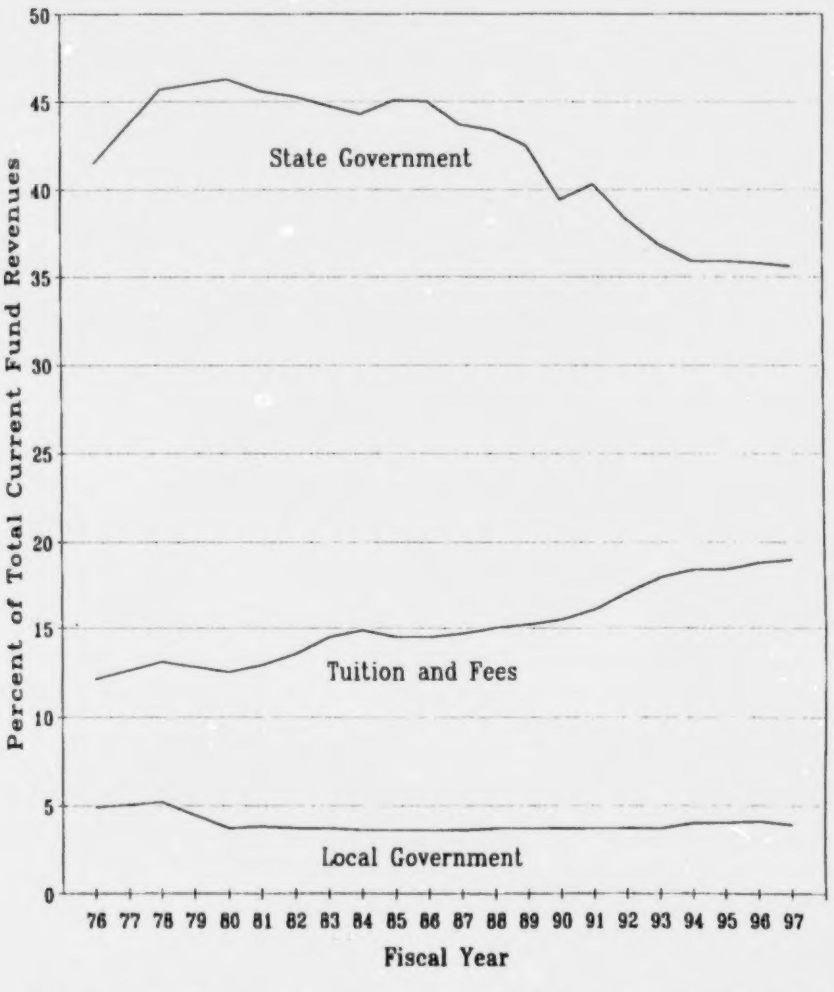
State investment effort in higher education has been in decline since the late 1970s. As states have reduced their state tax funding efforts for higher education, public institutions have aggressively raised their tuition rates charged to students to offset this loss of state resources. This process has resulted in a substantial shift in the costs of higher education paid by taxpayers in general to students and their parents in particular.

Historically, most states have relied on low tuition to keep public colleges affordable to most students and their families. Where students faced remaining financial need, states have expected the federal student financial aid programs to meet these needs of their students in their public colleges and universities.

Just a few states have assumed a significant state role in helping students with remaining need to complete the financing of their higher educations. In 2000-01:

- Just four states, with 29 percent of the undergraduate enrollment, provided 51 percent of the state-funded need-based grant assistance to undergraduate students. These states were **New York, California, Illinois and Pennsylvania**. Their efforts ranged from $325 million in Pennsylvania to $645 million in New York.
- Six more states with 21 percent of the undergraduates provided about $100 million each year in need-based grants to their undergraduate students, or 19 percent of all state-funded-need-based grant aid to

Revenue Sources of Public Higher Education Institutions FY1976 to FY1997



undergraduates. These states were **New Jersey, Minnesota, Indiana, Massachusetts, Texas, Michigan** and **Ohio**.

- The remaining 40 states enroll 50 percent of the undergraduates but provide just 30 percent of the state need-based grant assistance to students.

The overall pattern of state funding for higher education during the past quarter century usually goes like this:

- When the economy goes into the recession phase of the business cycle, state revenues are curtailed while some state expenditure obligations increase. This condition typically leads to cutbacks in state funding for higher education.
- When state tax fund appropriations for higher education are curtailed, public institution tuition rates are increased to offset state revenue losses.
- When state appropriations for higher education go up, so too do state appropriations for state financial aid programs. When state appropriations for higher education go down, so too do state appropriations for state student financial aid programs.
- When public institution tuition rates go up, state appropriations for financial aid programs tend to go down. When public institution rates go down, state appropriations for financial aid tend to go up.

This is a dysfunctional relationship for needy students. State appropriations for financial aid programs cannot go down when tuition rates go up if college affordability is to be preserved.

Most states tend to pass the responsibility for keeping college affordable off to the federal government. Unfortunately, when states are in financial difficulties (usually due to the decennial cycle of economic recessions), the federal budget is also in financial difficulties of its own.

This dysfunctional relationship between public investment in higher education, tuition rates and college affordability has its most serious consequences on higher educational opportunity for those from the lowest family income backgrounds. Those with the fewest resources to pay college attendance costs are also most dependent on financial aid programs and funding to enable them to pay college attendance costs.

These analyses examine the relationships between year-to-year changes in state tax fund appropriations for higher education, public institution resident undergraduate tuition rates, and state appropriations for need-based student financial aid. These relationship are examined across the fifty states and over time from FY1975 through FY2002.

This analysis is provoked by the steady and substantial deterioration in college affordability for students from low and lower-middle income family backgrounds since about 1980.

The unit of analysis in this study is the state. Thus, this analysis has much to say about state priorities and behaviors. For most states the criticism that follows from this analysis is rather sharp: States have failed to protect college affordability for their own low- and lower-middle income students. States have crippled their futures and diminished their own state's economic prospects as a direct result.

We at OPPORTUNITY believe that higher educational opportunity costs money: for capacity, for quality and for affordability. The curtailment of state investment effort in higher education since the late 1970s has

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Mission Statement

This research letter is founded on two fundamental beliefs. First, sound public social policy requires accurate, current, independent, and focused information on the human condition. Second, education is essential to the development of human potential and resources for both private and public benefit. Therefore, the purpose of this research letter is to inform those who formulate, fund, and administer public policy and programs about the condition of and influences that affect postsecondary education opportunity for all Americans.

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diminished educational opportunity. In some cases educational opportunity was diminished in all three ways (such as in California in the early 1990s), but most consistently with respect to college affordability.

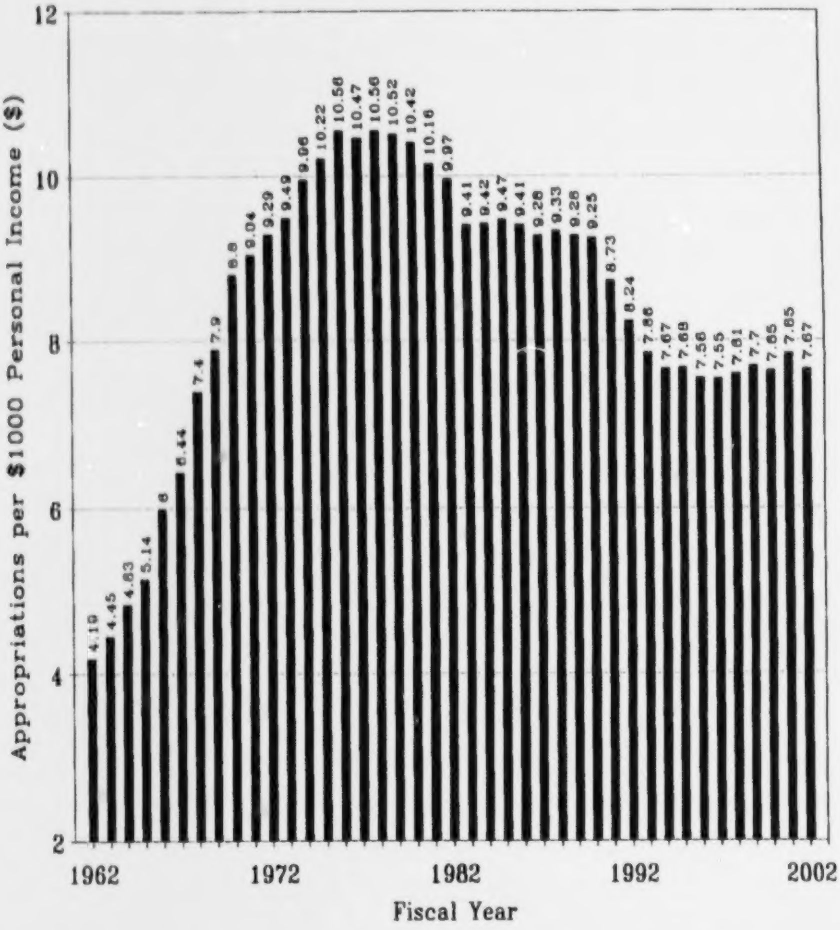
The Data

Sources. Data used in this study were taken from three sources. None of these sources are federal--all are voluntary data collection and reporting efforts by higher education organizations with academic and administrative responsibilities for funding higher education.

- *State tax fund appropriations for higher education* are collected by Jim Palmer and his associates and reported through the Grapevine project of the Center for Higher Education and Educational Finance, Illinois State University, at Normal, IL. Data are available online at: http://coe.ilstu.edu/grapevine
- *Public institution tuition and fee rates* are collected and reported by Kathy Raudenbush at the State of Washington Higher Education Coordinating Board at Olympia, WA. Data are available online at: http://www.hecb.wa.gov/policy/reports.html
- *State funding for need-based grant programs* is collected in the annual survey of the National Association of State Student Grant and Aid Programs, administered by the New York State Higher Education Services Corporation in Albany, NY. Data are available at: http://www.nassgap.org/research surveys/default.htm

Analysis. Mainly our analyses consist of bivariate correlations between annual changes in state appropriations for higher education, public institutional tuition rates and state funding for need-based financial aid grants to students. These correlations may range from +1.00 to -1.00.

Appropriations of State Tax Funds for Operating Expenses of Higher Education per $1000 of Personal Income FY1962 to FY2002



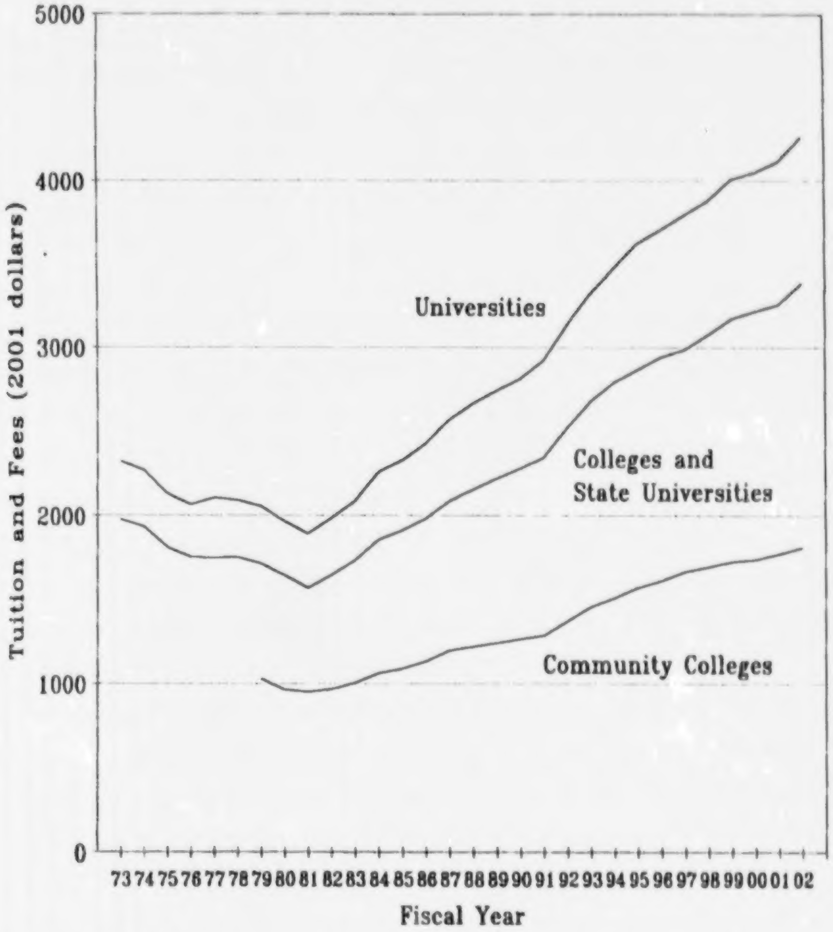
The unit of analysis is the state, and changes are measured for each state year-to-year. The first part of our analyses examines these relationships across states over time, and the second part examines these data over time within states. These two approaches to the same data offer insights into the relationships of interest in this study first over time, then on a state-by-state basis. The first tells us when, and the second names names.

Ultimately our analyses permit us to classify states according to their practices of appropriations vs. tuition and tuition vs. financial aid. Most states pass the first test, but very few seem to get it that they need to raise--not lower--need-based grant funding when tuition rates go up.

State Appropriations for Higher Education

Annually we have reported state tax fund appropriations for higher education, controlling for state personal income which we take to be the tax base for state investment efforts in higher education. The most recent of these analyses, "The Rise

National Average Resident Undergraduate Tuition and Required Fees in Public Institutions FY1972 to FY2002



and Fall of State Investment Effort in Higher Education, 1962 to 2002," appeared in the January 2002 (#115) issue of OPPORTUNITY.

Our analysis shows state investment effort rising from $4.19 in appropriations for higher education per $1000 of state personal income in FY1962, to a peak of $10.56 in FY1976 and FY1978, followed by a falloff to $7.67 by FY2002. The decline between the peak in FY1978 and FY2002 of $2.89 per $1000 of personal income is a 27.4 percent reduction in state investment effort in higher education. This 27.4 percent amounted to a reduction of $24 billion in FY2002 compared to FY1978 state investment effort. This decline occurred in 47 of the 50 states, led by **Arizona, Washington, Colorado** and **Minnesota**.

The falloff in state investment effort in higher education occurred at two points in time--the early 1980s and again in the early 1990s, coinciding with periods of economic recession. Currently, and again on the decennial cycle of recent economic recessions, states are again reducing their investment efforts in higher education.

The chart on page 1 of this issue of OPPORTUNITY shows the share of total current funds revenues of public institutions of higher education provided from state government, local government and tuition. The state share of public institution revenues rose from 41.5 percent in FY1976 to a peak of 46.3 percent in FY1980, followed by a dropoff to 35.6 percent by FY1997. This dropoff corresponds to a loss of $13.9 billion in FY1997 compared to FY1980. Or, more correctly, this represents a *shift* of $13.9 billion from state taxpayers to tuition-paying students and their families.

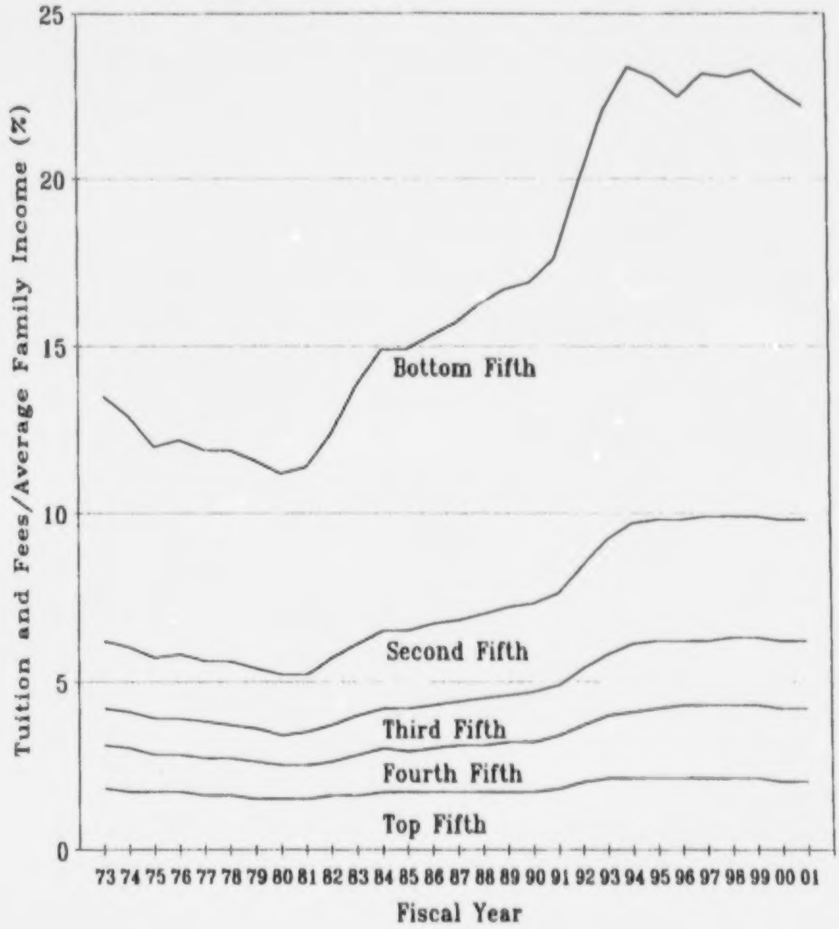
Tuition and Fees in Public Institutions

In the United States, higher education is viewed as a private as well as a social investment. Thus, students pay tuition to cover a part of the costs of their education. This tuition expectation is supported by the very large private returns to higher education--students directly benefit and are expected to pay for these benefits.

Because higher education costs money --for capacity, quality and affordability--public colleges and universities faced with reductions in state funding have turned increasingly to the tuition alternative. Since about 1980, as state funding has been reduced, tuition and fee charges to students have been increased to offset the loss of state resources.

Until about FY1981, real tuition and fee rates in public colleges and universities were actually going down. Removing inflation, tuition and fees charged resident undergraduates in state flagship universities actually declined from $2326 in FY1973 to a low of $1891 in FY1981 (2001 dollars). In state colleges and regional universities they declined from $2326

State College and Regional University Tuition and Fees
as Percent of Average Family Income by Quintiles
FY1973 to FY2001



to $1891 during this period.

But after FY1981, tuition increases have vastly exceeded inflationary adjustments in all types of public colleges and universities:

- At state flagship universities real undergraduate tuition and fees have increased from $1891 in FY1981 to $4,260 by FY2002, a real increase of 125 percent.
- At state colleges and regional universities, real undergraduate tuition and fees have gone from $1565 in FY1981 to $3385 by FY2002, an increase of 116 percent.
- At community colleges, real tuition and fees have increased from $948 in FY1981 to $1807 in FY2002, and increase of 91 percent.

The effect of the tuition increases after 1980 have been experienced differently by students from the low and the high end of the family income distribution. Here we use quintile distributions of the incomes of families: exactly 20 percent of all families fall into the lowest quintile of family income, exactly 20 percent fall into the second quintile, an so on.

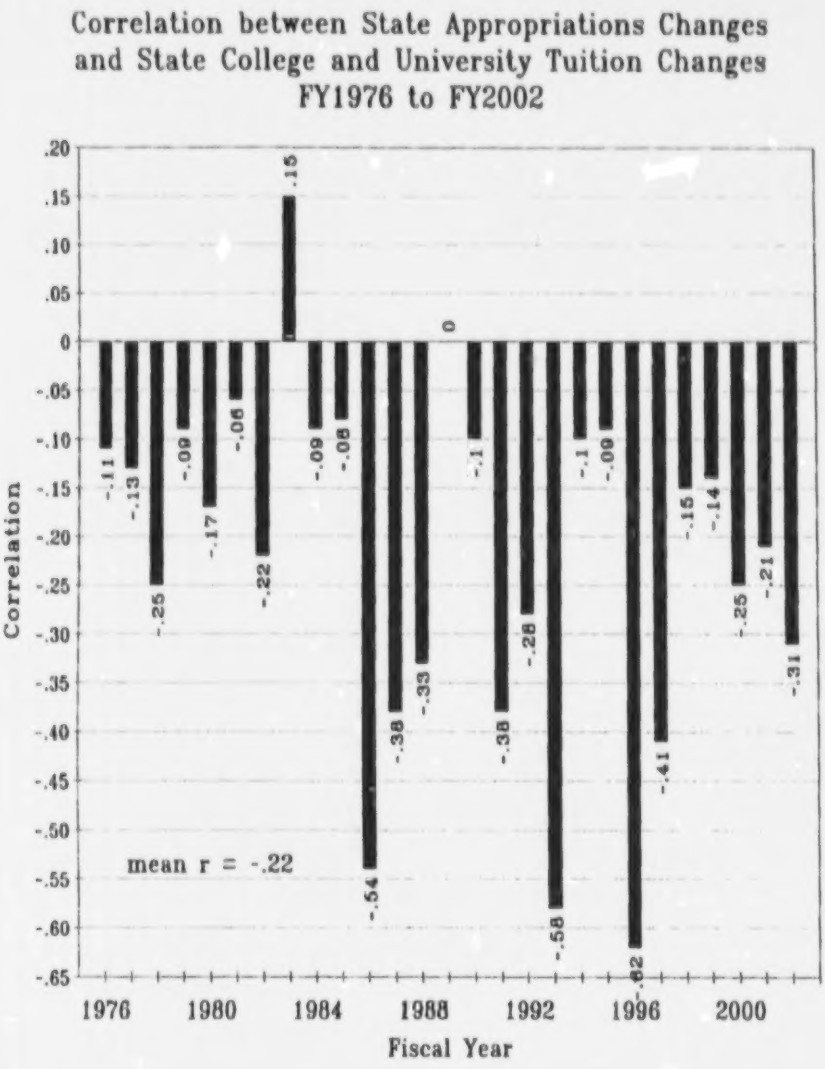
- In 2000, the lowest quintile of families had family incomes up to $24,000, an average income of $14,232 and received 4.3 percent of all family income.
- The second quintile had family incomes from $24,001 to $41,000, an average income of $32,268 and received 9.8 percent of all family income.
- The third quintile had family incomes of from $41,001 to $61,378, an average family income of $50,925 and had 15.5 percent of all family income.
- The fourth quintile had family incomes of from $61,379 to $91,700, an average family income of $74,918 and received 22.8 percent of all family income.
- The top quintile had incomes above $91,700, an average income of $155,527 and received 47.4 percent of all family income in the United States.
- Just the top 5 percent of all families had incomes above $160,250, an average income of $272,349 and received 20.8 percent of all family income.

These data are reported by the Census Bureau.

During the last two decades there has been a significant redistribution of income up the family income scale.

- The bottom 80 percent of families have seen their share of family income shrink, from 58.8 percent of all family income in 1972 to 52.4 percent by 2000.
- The top quintile of family income has seen their share of all family income rise from 41.4 to 47.4 percent of all family income between 1972 and 2000.
- The top five percent of all families have seen their share of family income rise from 15.9 to 20.8 percent of all family income between 1972 and 2000.

The tuition increases since 1980 have had their greatest impact on students



from the lowest levels of family income, and almost no effect at all on students from the highest levels of family income. To illustrate this we use the national average tuition and required fee charges at state colleges and regional universities and average family income by quintiles. In FY2001 the national average state college and regional university tuition and mandatory fee charge was 22.2 percent of average family income in the bottom quintile, 9.8 percent in the second quintile, 6.2 percent in the third quintile, 4.2 percent in the fourth quintile and 2.0 percent of median family income in the top quintile.

Between FY1980 and FY2001, the tuition and fees at state college and regional universities have risen as a percent of average family income in each quintile of family income changed as follows:

Bottom fifth	+8.7%
Second fifth	+3.6%
Middle fifth	+2.0%
Fourth fifth	+1.1%
Top fifth	+0.2%

Thus, the cost shift from state taxpayers to students and their families since FY1980 has had its greatest impact on those from the bottom quintile of family income, and had its least impact on students and families from the top quintile of family income.

Correlation between Appropriations Changes and Tuition Changes

We next want to explore state decisions about tuition rate changes as states have reduced their investment efforts in higher education since the late 1970s. We do so by comparing year-to-year changes in state tax fund appropriations for higher education to changes in tuition and fee rates in public higher education institutions. The method of comparison is bivariate correlation.

What we fully expect to see in this analysis is negative correlations between changes in state tax fund appropriations and tuition rates. Broadly, we expect to see tuition rates increase when appropriations decrease. But more accurately, we expect to see tuition rates increase least when appropriations increases are largest, and to see tuition rates increase the most when appropriations increases are least (or actually reduced, as they were in the early 1990s and is happening again now during the current recession).

The chart on this pagé shows the correlations between changes in state appropriations for higher education and changes in tuition charges at state colleges and regional universities between FY1976 and FY2002. Over this 27 year period, the correlation between appropriations and tuition were negative in 25 years, positive in one year, and there was no correlation in one year. The average correlation for these 27 years was -0.22.

This means that states with regularity and consistency increase tuition when appropriations are inadequate to meet the revenue needs of state colleges and regional universities. These negative correlations appear to have been strongest between FY1986 and FY1997, although since FY1999 they are growing again. Recent anecdotal evidence suggests the current economic recession is producing again larger than average tuition increases in public institutions.

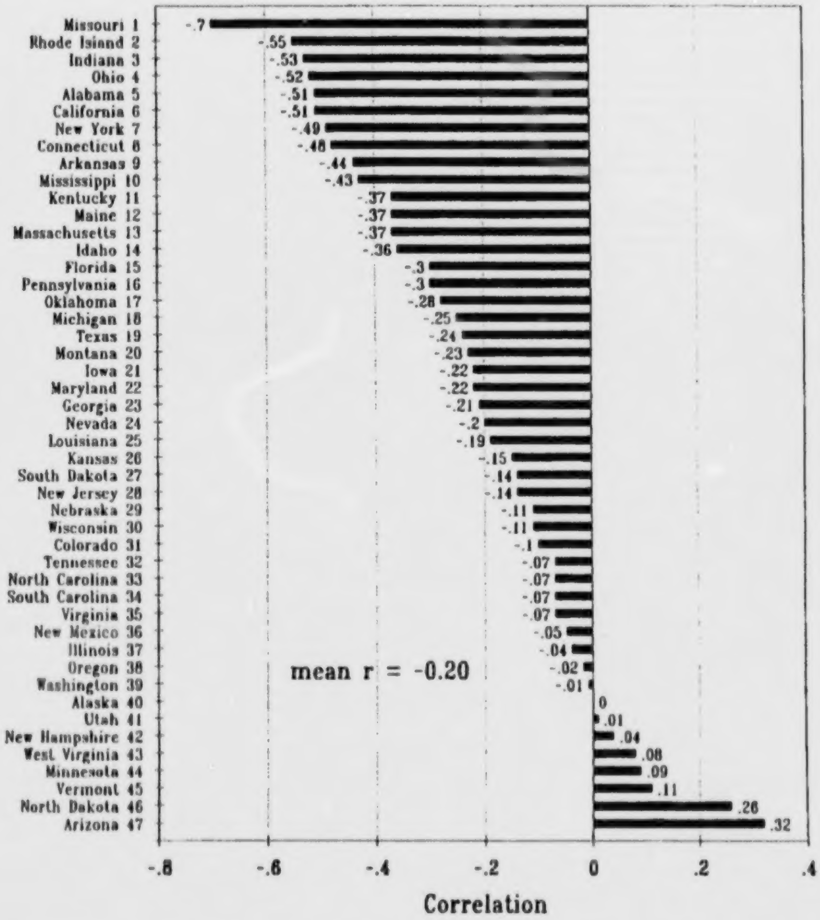
We have also examined the above relation between changes in state appropriations and changes in tuitions at state flagship universities and community colleges. The same basic pattern holds.

- For undergraduates in flagship universities, between FY1976 and FY2002 the correlations were negative in 23 of the 27 years, positive in three, with no correlation in one year. The mean correlation over this 27 year period was -0.18.
- In community colleges, between FY1979 and FY2002, the correlation between appropriations and tuition was negative in 19 years, positive in three, with zero correlation in one year. The average correlations over this period was -0.16.

Clearly, all public colleges and universities are affected by the reduction in state investment effort in higher education in about the same way. When appropriations are inadequate to meet institutional needs, tuitions are increased. The financial responsibility for public higher education is shifted bit-by-bit from state taxpayers to students and their families.

We have also examined the relationship between appropriations and tuitions within states over time. Interestingly, the previous findings do not hold for all states.

Correlation between State Appropriations Changes and State College and University Tuition Changes FY1976 to FY2002



In most states (39) appropriation changes and tuition rate changes in state colleges and universities are negatively correlated between FY1976 and FY2002. But in one state there is no correlation over this period, and in seven states the correlation is positive.

The typical and expected pattern in states is that tuition is increased to offset inadequate state appropriations (negative correlation). **Missouri** is the clearest example of this relationship. The correlation of -0.71 is closest to perfect. In Missouri the negative linkage between appropriations and tuition is nearly lock-step. In state colleges and regional universities inadequate state appropriations are most consistently and regularly met with tuition increase, and the most adequate annual appropriations are met with the most restraint in tuition increases. Other states where this negative relationship between appropriations and tuition changes include **Rhode Island, Indiana, Ohio, Alabama, California, New York, Connecticut, Arkansas** and **Mississippi**.

But in a few states this relationship between appropriations and tuition rate changes is reversed between FY1976 and FY2002. Notable are **Arizona** and **North Dakota**. In these states (and to lesser degrees in five others), appropriations and tuition rates move up and down together. In these states those who set tuition rates appear to assign priority to the needs of families over the needs of institutions. When state revenues are good, family revenues are also better able to pay higher tuition charges. And when state revenues for higher education are tight, tuition rate increases are constrained. These states stand out from all others in their sensitivity to the abilities of families to pay higher tuition charges in state colleges and regional universities.

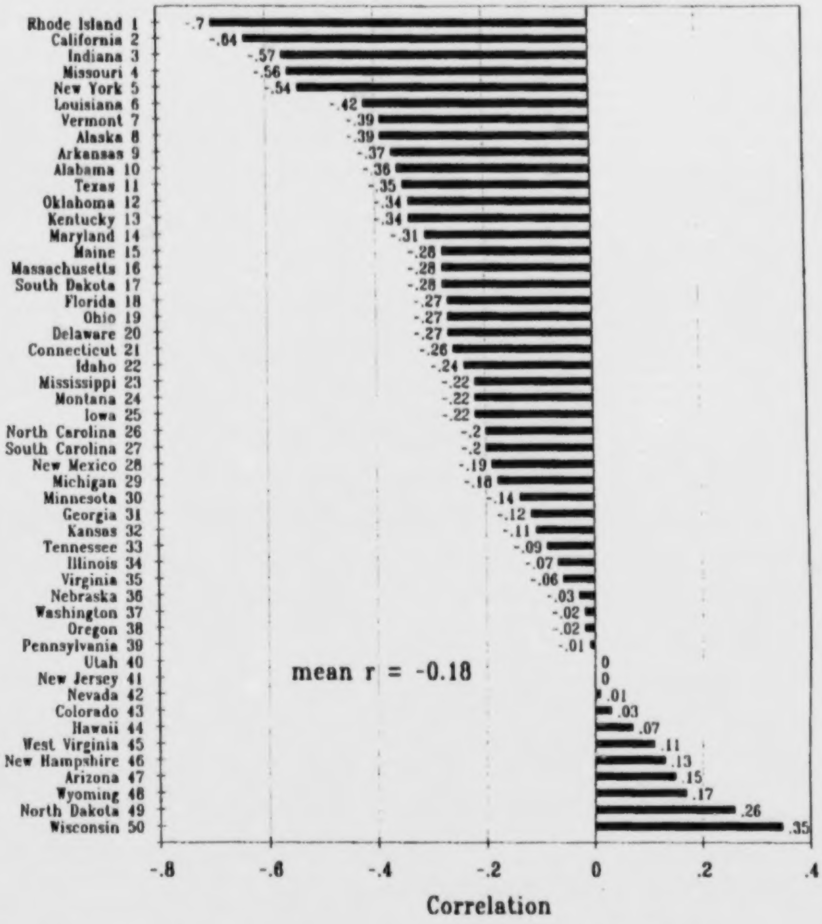
We have examined these relationships within the states over time at flagship universities and community colleges as well. The results are largely similar to those above.

For flagship universities, the correlations between year-to-year changes in state tax fund appropriations and changes in resident undergraduate tuition and fee rates ranged from -0.70 in **Rhode Island** to +.25 in **Wisconsin**. This spans the years between FY1976 and FY2002.

- In 39 states the correlation between appropriations and tuition was negative The states with the largest negative correlations besides Rhode Island were **California, Indiana, Missouri** and **New York**.
- In two states there was no correlation between appropriations and tuition--**Utah** and **New Jersey**.
- In nine states the correlation was positive. Besides Wisconsin, these states includes **North Dakota, Wyoming, Arizona, New Hampshire** and **West Virginia**.

For community colleges the correlations between appropriations changes and tuition changes again tend to follow the preceding patterns. The average correlations were negative in 36 states and positive in 12 states. (South Dakota and Virginia had no data.)

Correlation between State Appropriations Changes
and State Flagship University Tuition Changes
FY1976 to FY2002



- The correlations between appropriations and tuition in community colleges were most negative in **Kansas, Louisiana, New York** and **Rhode Island**.
- The correlation between appropriations and tuition was most positive, by far, in **Arizona**. Other states with large positive correlations (indicating attempts to hold down tuition when economic conditions were bad) include **New Mexico, Colorado** and **Vermont**.

Thus far this analysis has found largely and quite consistently negative relationships between annual changes in state tax fund appropriations for higher education and annual changes in resident undergraduate tuition and fee rates in all three types of public higher education institutions. What this means is that when state appropriations are small or negative, public institution tuition and fee rates charged to students tend to increase by abnormally large amounts. When state appropriations increases are relatively large, tuition increases are relatively small.

This analysis has also shown that the impacts of these tuition increases have been far greater on students from the lowest income families, and least on students from the highest income families. This finding leads directly into our remaining analysis: the relationship between tuition and fee changes and changes in state funding of need-based grant programs for undergraduate students.

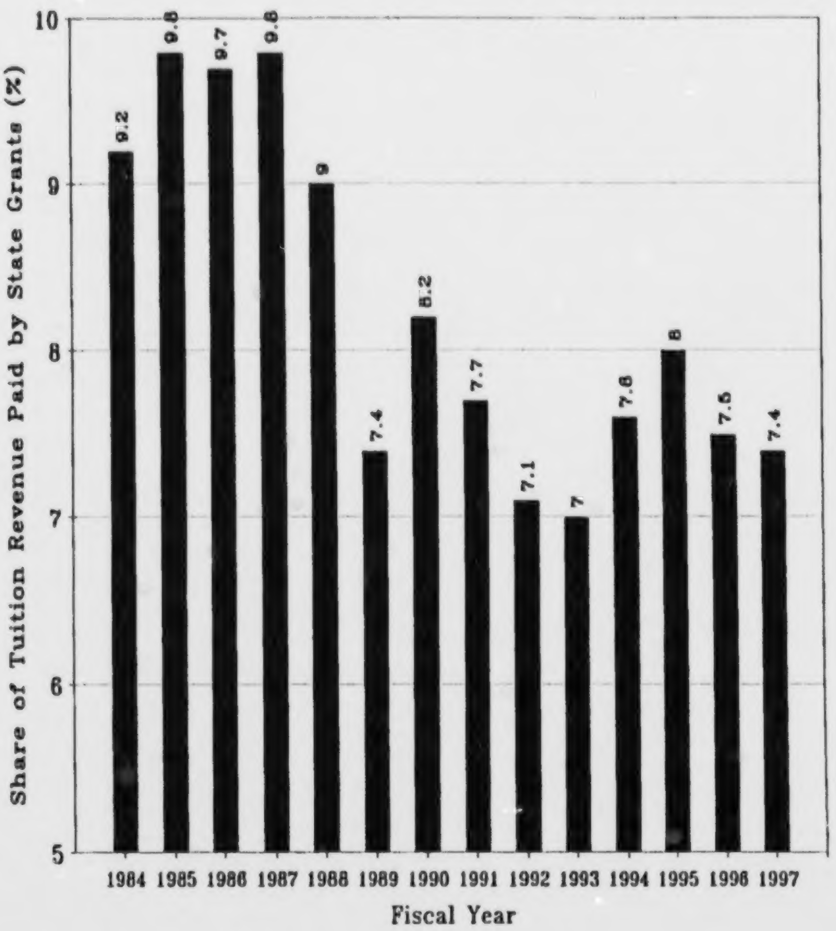
State Funding for Need-Based Student Financial Aid

Historically, states have sought to keep their public colleges affordable by heavily subsidizing their capital and operating budgets and controlling tuition rates. Since about 1980, however, states have reduced their investment efforts in higher education. Tuitions have been increased to offset the losses in state financial support. The low tuition approach to keeping public colleges affordable has broken down, badly.

Economists have long argued that targeting state investment only on those who need financial aid to help pay college costs is a more efficient and effective way to assure college affordability. A (very) few states have followed this recommendation and developed state-funded grant programs.

These programs are usually need-based and therefore target state grant dollars on students with demonstrated financial need to pay college attendance costs. Eligible students are typically students from low-income or lower-middle income families. However, state resident students may be eligible for state grants at private colleges if state policies permit this. They may still be able to demonstrate financial need and receive state grants at higher family income levels.

Public Institution Undergraduate Tuition and Fees
Paid by State Need-Based Grants
FY1984 to FY1997



Financial need is determined by the following formula:

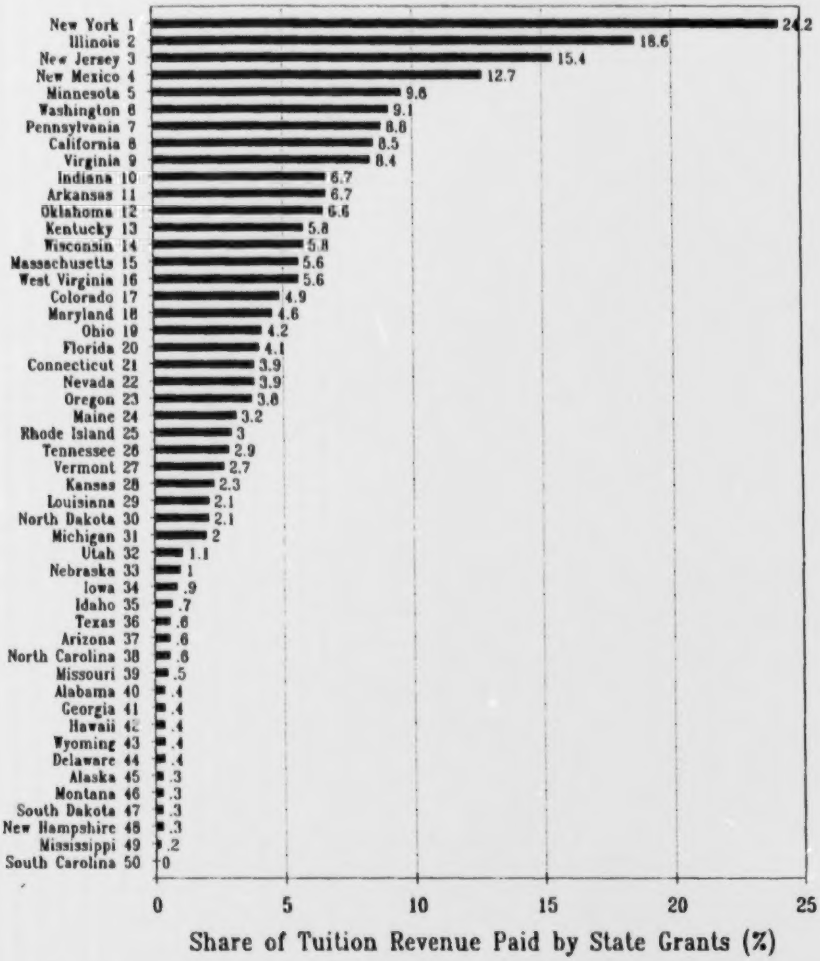
Cost of attendance
less Expected family contribution
equals Financial need
where:

- *Cost of attendance* includes tuition and fees, books and supplies, room and board, transportation, personal and medical care, and other specified allowances.
- *Expected family contribution* is determined by a federal formula based on family income, assets, age, size, number of children in college, and other factors.
- *Financial need* is the difference between cost of attendance and expected family contribution. Financial need is addressed with grants, scholarships, earnings from employment and educational loans.

Typically state grants are limited to payment of tuition and fees. Other resources are used to help students finance the remainder of their college budgets.

The chart on this page shows the estimated proportion of tuition and fees at public colleges and universities that were paid through state need-based grant programs between FY1984

Public Institution Undergraduate Tuition and Fees Paid by State Need-Based Grants, FY1997



and FY1997. Between FY1985 and FY1987 this was about 9.8 percent. For example, in FY1987, public institutions collected about $8.442 billion in tuition and fees from undergraduate students. Of this total, about $815 million was paid by state-funded need-based grants to undergraduate students enrolled in public colleges and universities. This was about 9.8 percent of the public institution tuition revenue.

Since FY1989 that share of public institution tuition revenue paid by state need-based grants has dropped to about 7.5 percent. In FY1997--the last year for which NCES has published IPEDS financial data used in this analysis--this was 7.4 percent. Clearly, since the mid 1980s, tuitions in public institutions have increased faster than has state funding for need-based grants to undergraduate students.

Of course there is wide variation across the states in their commitment to need-based financial aid for their own undergraduate students. Extremely wide. In FY1997 New York paid 24.2 percent of the tuition and fees charged undergraduate students in public institutions through its TAP program. At the other end of the scale **South Carolina** paid nothing.

In only four states did state need-based grant programs pay more than 10 percent of the tuition and fees charged students in public institutions. Besides New York, these were **Illinois** (18.6 percent), **New Jersey** (15.4 percent) and **New Mexico** (12.7 percent). Five more states paid between 8 and 10 percent of the tuition charges for undergraduates in their public institutions: **Minnesota, Washington, Pennsylvania, California** and **Virginia**.

Besides South Carolina, seventeen states paid one percent or less of the tuitions charged their undergraduate students enrolled in public institutions. These miserly states were: **Mississippi, New Hampshire, South Dakota, Montana, Alaska, Delaware, Wyoming, Hawaii, Georgia, Alabama, Missouri, North Carolina, Arizona, Texas, Idaho, Iowa** and **Nebraska**.

Fortunately, there are other means available to financially needy undergraduate students to pay tuition charges in public institutions: the federal Pell Grant program. The data from this program permit assessment of the numbers of low income students enrolled in public institutions in each state. The federal effort to assist these students can be compared to state efforts to help their own students.

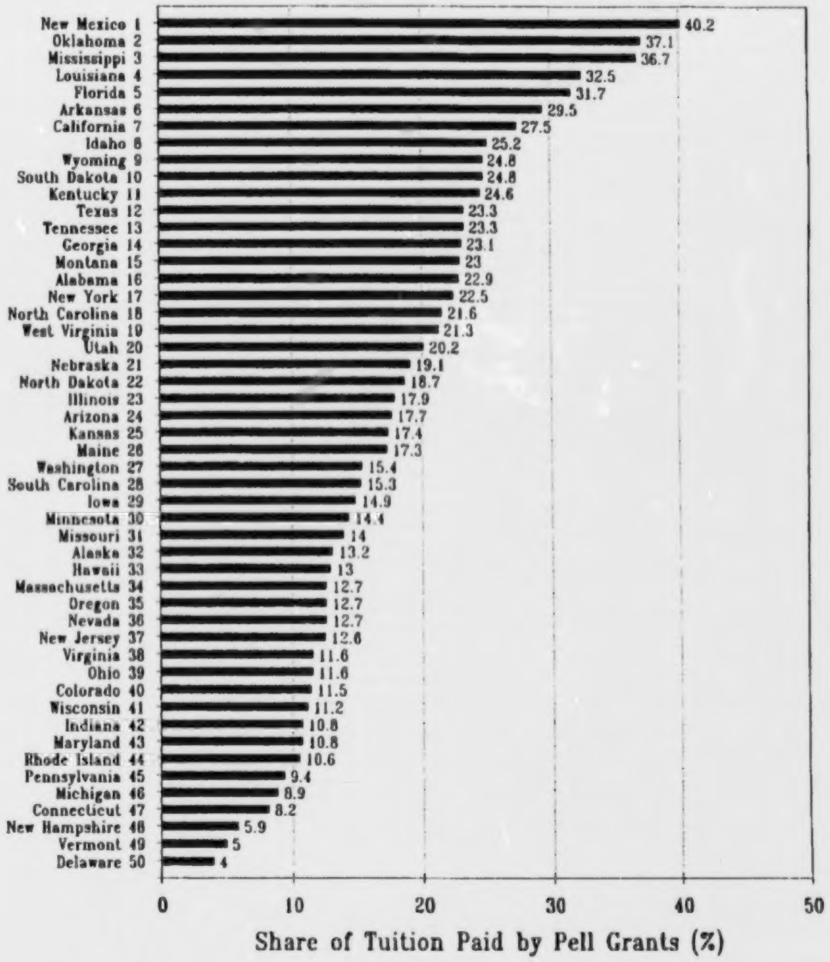
The Pell Grant program is targeted on students from low- and lower-middle income families. It is administered uniformly across all states (plus DC, Puerto Rico, Trust Territories, etc.). Thus we may compare state efforts to assist students from low and lower-middle income families with grant assistance to the federal effort to assist these students. The comparison is most illuminating, usually in ways that ought to embarrass most states and public institutions.

In FY1997, only three states provided more grant assistance to their own financially needy undergraduate students enrolled in public institutions than did the federal Pell Grant program. These states were **New Jersey, New York and Illinois.**

- New Jersey provided $100.3 million to students in public institutions, mainly through its Tuition Aid Grant (TAG) program. In comparison the Pell Grant program provided $81.8 million that year. Note that New Jersey's TAG grants also aided students at in-state private institutions with $46.3 million in state grants.
- New York provided $353.8 million in grants to needy undergraduates mainly through its public institutions through its Tuition Assistance Program (TAP). The federal government added $328.8 million. TAP also provided $274.6 million to needy undergraduates in New York private institutions.
- Illinois provided $145.8 million to needy undergraduates in its public institutions, mainly through its Monetary Award Program (MAP). By comparison the federal government provided $139.9 million to these students through Pell Grants. Illinois also provided $125.7 million to needy undergraduates in its private institutions through MAP.

Seven other states provided state grants to needy undergraduates in their public colleges and universities that came within 5 percent of the federal investment through the Pell Grant program. These states were **Pennsylvania** (-0.6 percent), **Vermont** (-2.3 percent), **Virginia** (-3.3 percent), **Delaware** (-3.6 percent), **Indiana** (-4.2 percent), **Connecticut** (-4.3 percent) and **Minnesota** (-4.8 percent).

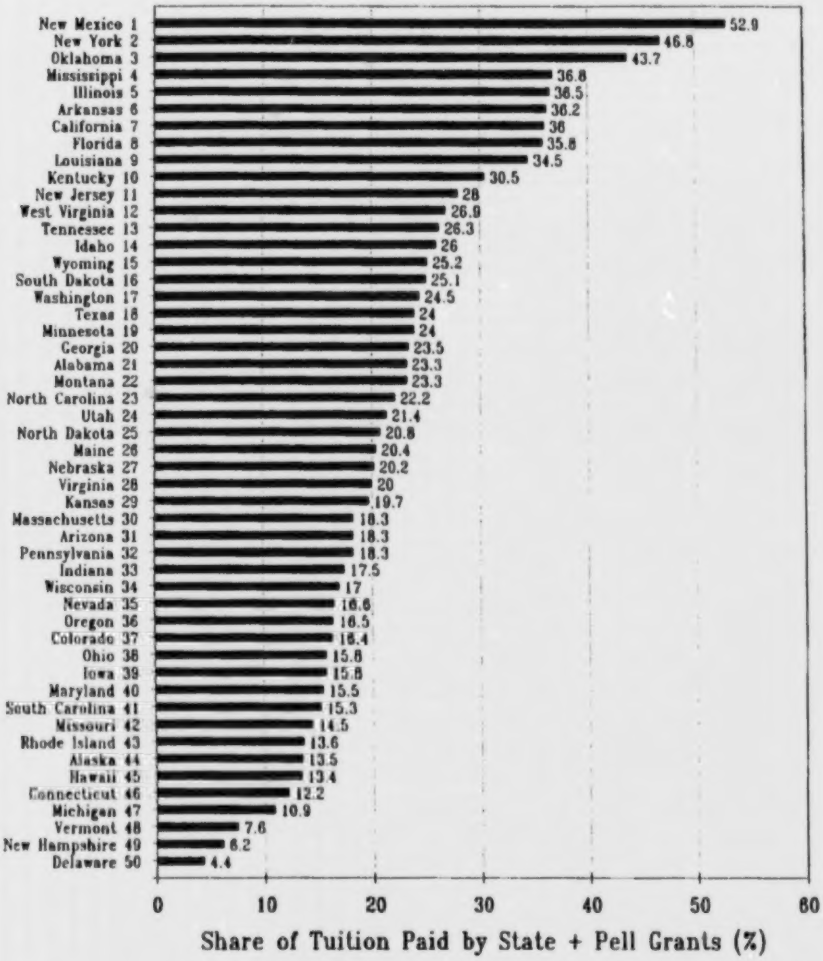
Public Institution Undergraduate Tuition and Fees Paid by Federal Pell Grants, FY1997



The other 40 states fell even farther short of aiding their own needy undergraduate students enrolled in their public institutions. Worst among these were the 15 states where the state need-based grant funding effort to assist students enrolled in public institutions fell more than 20 percent below the federal effort. In FY1997 these were:

- **Mississippi** provided state need-based grants ($394,000) that paid 0.2 percent of the tuition and fees charged undergraduates enrolled in its public institutions ($207,361,000). The Pell Grant program provided grant assistance ($75,998,000) that paid 36.7 percent of tuition and fees by these students.
- **Oklahoma** provided state need-based grants ($13,393,000) that paid 6.6 percent of undergraduate tuition and fees ($204,367,000) at its public institutions. Pell Grants provided funds ($75,847,000) that covered 37.1 percent.
- **Louisiana** provided state need based grants ($6,977,000) that paid 2.1 percent of undergraduate tuition and fees ($336,163,000) at its public colleges and universities.

Public Institution Undergraduate Tuition and Fees Paid by State Grants and Pell Grants, FY1997



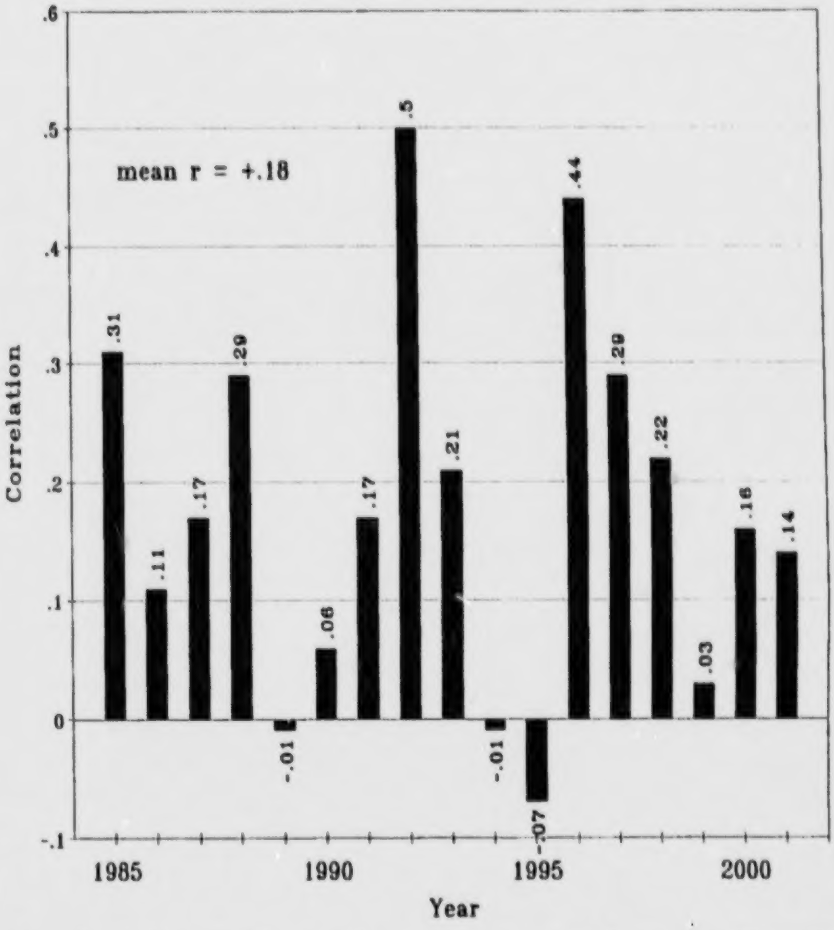
Pell Grants paid $109,103,000 or 32.5 percent of public institution tuition and fees.

- **Florida** provided state need-based grants ($25,745,000) that paid 4.1 percent of undergraduate tuition and fees ($626,856,000) at public institutions. The Pell Grant program provided $198,543,000 or 31.7 percent of public institution undergraduate tuition and fees.
- **New Mexico** provided state need-based grants ($13,782,000) that paid 12.7 percent of undergraduate tuition and fees ($108,498,000) at its public institutions. However, the Pell Grant program provided $43,614,000 or 40.2 percent of public institution undergraduate tuition and fees.
- **South Dakota** provided $188,000 in need-based grants to undergraduates in its public institutions. These students faced $64,655,000 in tuition and fees. The Pell Grant program provided $16,030,000. South Dakota has since dropped its need-based grant programs altogether.
- **Idaho** provided $670,000 to help needy undergraduates in public institutions pay tuition and fees totalling $91,373,000. This was 0.7 percent of tuitions and fee revenues. The federal government provided $23,045,000 to needy undergraduates, or 25.2 percent of the tuition and fee revenues of public institutions.
- **Wyoming** provided $160,000 in need-based grant assistance to undergraduates enrolled in public institutions. These students faced tuitions totalling $41,178,000. The Pell Grant program provided $10,212,000 to these students. The state paid 0.4 percent of tuition with its own grant money while federal taxpayers paid 24.8 percent.
- **Arkansas** provided $10,832,000 in need based grants to undergraduates in public institutions who faced $162,056,000 in tuition costs. The Pell Grant program provided $47,853,000. The state effort met 6.7 percent of tuition costs while the federal effort met 29.5 percent.
- **Georgia** provided $1,656,000 in need based grants to undergraduates in public institutions facing $415,227,000 in tuition and fee charges, or 0.4 percent of the total. The Pell Grant program provided $96,082,000 or 23.1 percent of the grants used by needy students to pay their tuitions in public institutions.
- **Texas** provided $8,338,000 in need-based grants to undergraduates in its public institutions. These students faced tuition charges totalling $1,341,357,000 so the grants covered 0.6 percent of tuition charges. In contrast the Pell Grant program provided $313,205,000, or 23.3 percent of tuition revenues of public colleges and universities.
- **Montana** provided $305,000 in need-based grants to undergraduates enrolled in its public institutions. These students faced $95,128,000 in tuition

charges. The Pell Grant program provided $21,898,000 or 23.0 percent of tuition, compared to 0.3 percent by the state on Montana.

- Alabama provided $1,682,000 in need-based grants to its undergraduates enrolled in public institutions. They faced $385,958,000 in tuition and fees. But the federal Pell Grant program provided $88,419,000, or 22.9 percent of tuition, compared to 0.4 percent by the state.
- **North Carolina** provided $2,342,000 in state need-based grant aid to its needy undergraduate students enrolled in public institutions. They faced tuitions totalling $408,413,000. The Pell Grant program provided $88,328,000 or 21.6 percent of the tuition revenue, compared to 0.6 percent by the state.
- Tennessee provided $9,235,000 in state-funded need-based grant assistance to undergraduates enrolled in its public institutions. These students faced tuition charges totalling $314,067,00. The Pell Grant program provided $73,211,000 to these students. The state provided 2.9 percent of tuition revenue to public institutions through its grants, compared to 23.3 percent provided by taxpayers from elsewhere through the Pell Grant program.

Correlation between State Appropriations Changes and State Need-Based Grant Appropriations Changes FY1985 to FY2001



Many other states come close to telling the same story told in these states. Those closest to these conditions are **Utah, California, Kentucky, Nebraska, Arizona, North Dakota, West Virginia, South Carolina** and **Kansas** to name a few.

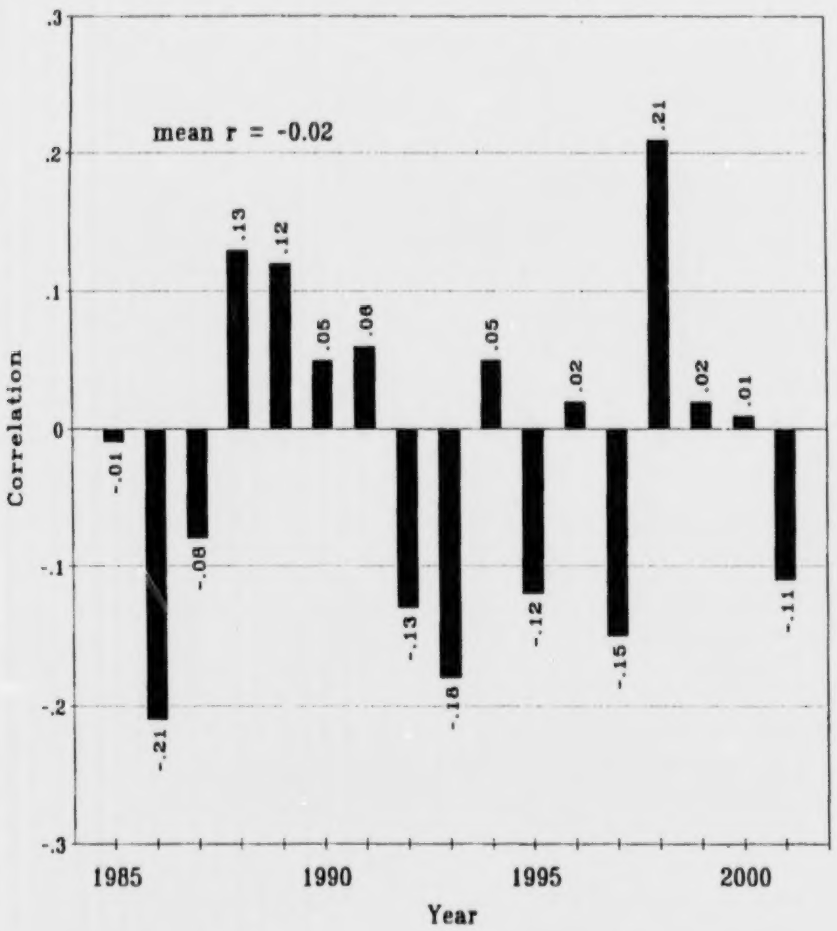
The question posed by these data is simply this: If a state does not care enough to provide need-based grant assistance to its own needy students in public institutions, then why should taxpayers from the rest of the country help these students pay their college attendance costs through the Pell Grant program? A few states have made serious commitments to help their own needy students. But most states have not. And it is unclear to us why states that care so little for their own low income students should be bailed out by far more generous taxpayers from other states.

Correlation between State Appropriations for Higher Education and State Financial Aid Funding

The central concern of this analysis is that higher educational opportunity costs money: for capacity, for quality and for affordability. When state investment in higher education is curtailed, one or more of these dimensions of educational opportunity required by students are inevitably sacrificed.

Available evidence indicates that the first two--capacity and quality--have been at least compromised during the last two decades of deteriorating state support for higher education, and that affordability has been cut deeply.

Here we first examine the relationship



Correlation between Flagship University Tuition Changes and State Need-Based Grant Appropriations Changes FY1985 to FY2001

between state appropriations for higher education and annual changes in state funding for need based grants to undergraduate students. The chart on this page shows the correlations between annual changes in state tax fund appropriations for higher education and annual changes in state funding of their need-based grant programs across the 50 states for the fiscal years 1985 through 2001.

Of the 17 years for which we have data, the correlation is positive in 14 of those years and negative in the other three. The average correlation is +.18. What this means is that state funding for state need-based grants tends to increase when state funding for higher education increases. It also means that state funding for need-based grants tends to decrease when state funding for higher education decreases. Or state funding for need-based students grants is treated just like any other funding need of higher education and goes with the flow of available state resources.

This is a disastrous scenario for keeping college affordable. Exactly when state funding for need-based grants is needed most (because public institutions have increased their tuition charges to offset losses in state funding), states cut their funding for these need-based grants. And when incremental funding is needed least, states tend to increase funding the most. In effect, at the downward ratcheting periods of economic recession--the early 1980s, the early 1990s, and now again in the early 2000s--when tuition rates are increasing fastest in public institutions, states have and are reducing the financial support for needed financial aid for students.

Correlation between State Financial Aid Funding and Tuition Rates in Public Institutions

To keep public colleges and universities affordable, financial aid needs to increase--not decrease--when tuition rates are increased. We have examined the relationship between changes in tuition and fee rates in three types of public institutions with changes in state funding for need-based grants. The result is a sorry picture for needy students.

As the chart on this page shows, the average correlation between state flagship university undergraduate tuition rate changes and changes in state funding for need-based grants is *negative!* That is to say, as tuition goes up, state financial aid goes down. If tuition went down, financial aid would go up. Practically this means that when tuition increases are smallest state funding for need based grant increases are greatest, and when tuition increases are greatest financial aid funding increases are least.

Over the seventeen years between fiscal year 1985 and 2001 the correlation was negative in eight years and positive in nine years. Unfortunately, the average was -0.02. There is little evidence in these data that state policy makers and appropriators understand the resource commitments required to keep state flagship universities affordable for students when times get tough.

The two charts on this page show the correlation between changes in tuition rates and state need-based grant appropriations changes at state colleges and regional universities and at community colleges.

At state colleges and regional universities the correlation between tuition changes and changes in state grant funding was negative in 10 of the 17 years, positive in six and zero in one. The average correlation over the 17 years was -0.07. These institutions are particularly vulnerable because they are most dependent on state funding for operation resources.

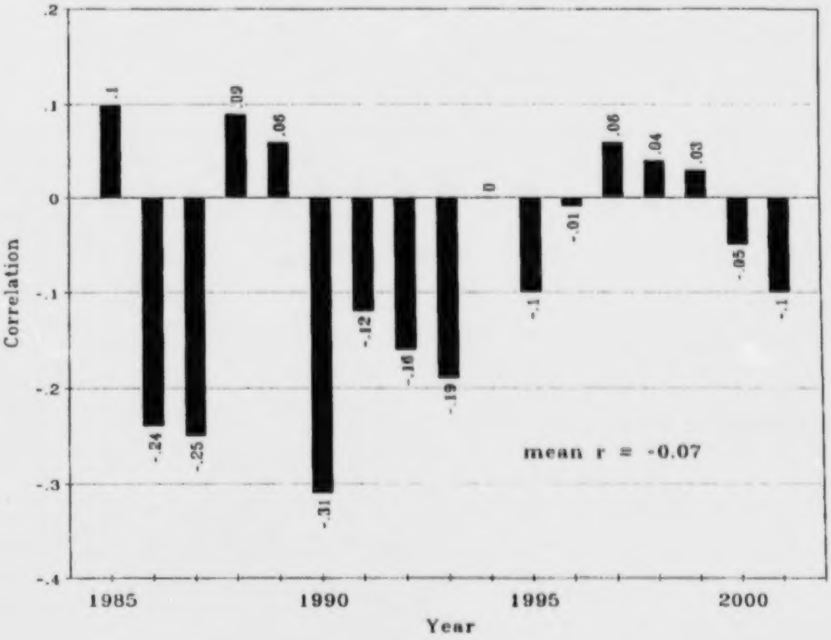
At community colleges the correlation between year-to-year changes in tuition and changes in state grant funding was positive in 7 years and negative in 10 years. The average correlation was +0.01 over the 17 years.

Conclusion

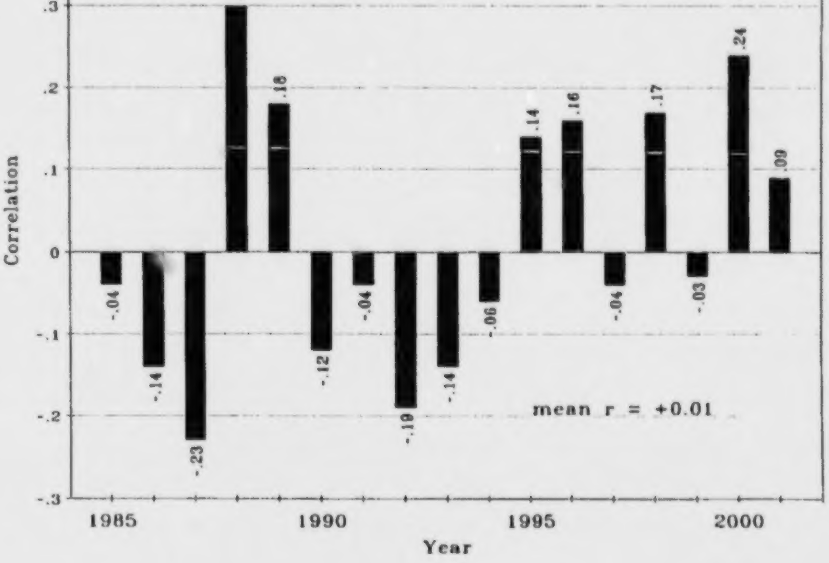
It is hard to put lipstick on a pig. The very best picture indicated by these correlations is that most states have done little or nothing to protect college affordability for their own undergraduate college students over the last two decades. As Medicaid and corrections have squeezed out all other state government budget priorities, public colleges and universities have increasingly turned to tuition revenue from students and their families to finance their operations. This cost-shift from taxpayers to students has occurred with little or no thought about how higher prices would affect students from different family income backgrounds.

Evidence that we have compiled and reported in OPPORTUNITY in the

Correlation between State College & University Tuition Changes and State Need-Based Grant Appropriations Changes FY1985 to FY2001



Correlation between Community College Tuition Changes and State Need-Based Grant Appropriations Changes FY1985 to FY2001



past has documented the consequences of this unmanaged cost-shift in the states.

- Students from the bottom quartile of the family income distribution made gains in bachelor's degree completion in the 1970s, but have lost those gains and much more in the 1980s. Their gains in high school graduation rates and college continuation rates have been offset by losses in bachelor's degree completion once they enter the higher education system.
- The share of dependent Pell Grant recipients enrolled in public four-year colleges and universities has declined substantially between 1989 and 2000. The share of dependent Pell Grant recipients enrolled in public two-year colleges has increased during this period. The same shift from four-year to two-year colleges has occurred among independent Pell Grant recipients over the same period of time.

This neglectful treatment by most states of students from low- and lower-middle income families over the last two decades is not without social and consequences:

- Labor market demands for better educated workers have been outstripping the production of college graduates since the early 1970s.
- A growing share of students in the K-12 pipeline headed for higher education come from low income families. This is measured either in terms of the growth of minorities whose family incomes are typically half that on non-Hispanic whites, or by the growth in the share of enrollment approved for subsidized school lunches.
- Growing income inequality is dividing and polarizing the population into classes divided along lines of educational attainment. The United States that once defined itself under the banner of "life, liberty and the pursuit of happiness" now has the largest share of its population behind bars of any country in the world.

States make choices and choices have consequences. The evidence compiled here finds that states have sharply reduced their investment in higher education, that public institutions have raised their tuitions to partly offset this loss of state resources, that these price increases have had disproportionate impact on students from lowest income families, and that most states have walked away from their historic commitment to keeping college affordable. Tuitions in public institutions have gone up, but when they do state funding for need-based grants has gone down. There remain consequences for such choices.

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Postsecondary Education
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The Environmental Scanning Research Letter of Opportunity for Postsecondary Education

Number 122 **www.postsecondary.org** **August 2002**

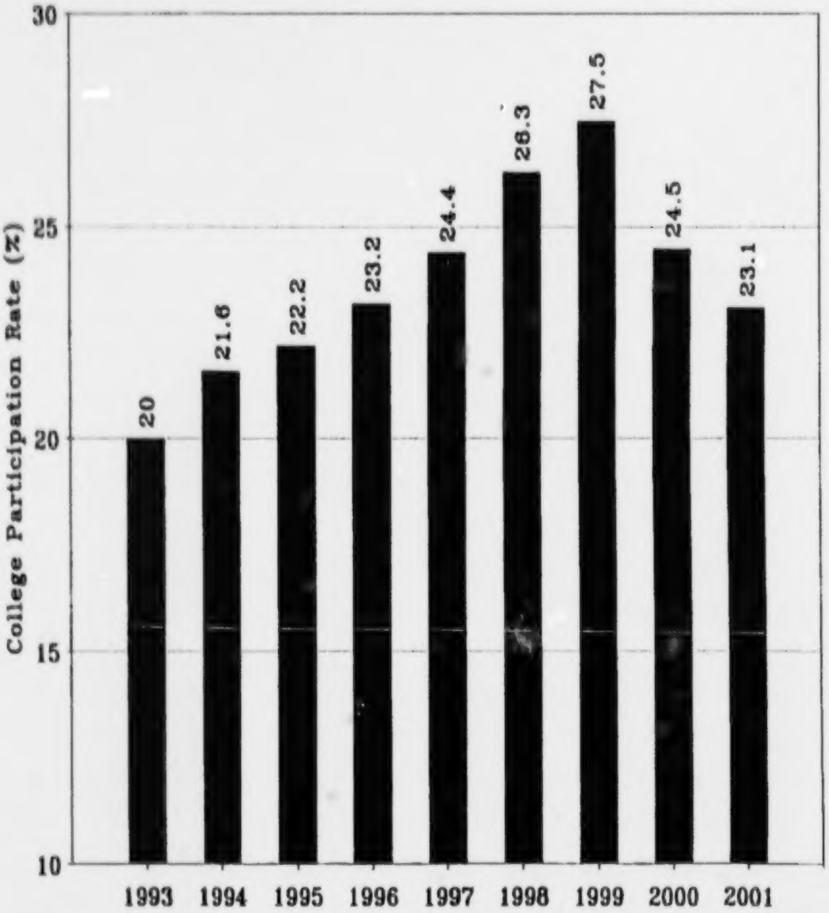
College Participation Rates by State for Students from Low Income Families FY1993 to FY2001

For the 2000-01 academic year (FY2001), the college participation rate for students from low income families was 23.1 percent. Out of 6,866,590 children in 4th to 9th grades in 1991-92 who lived in low income families, 1,584,078 were enrolled in college in 2000-01. Of the original cohort, 5.2 million did not make it to college.

The FY2001 college participation rate for these students of 23.1 percent was down from 24.5 percent in FY2000 and a peak of 27.5 percent reached in FY1999. The FY2001 college participation rate was the lowest since FY1996. And the FY2001 data do not yet capture the effects of the economic recession that began in March 2001 nor the effects of the terrorist attacks on September 11, 2001. When the FY2002 data become available next spring some assessment of these effects will be possible.

In FY2001 the college participation rate for students from low income families ranged from 41.9 percent in **New Hampshire** to 5.9 percent in **Alaska**. Between FY1999 when the college participation rate peaked at 27.5 percent and FY2001 when it reached 23.1 percent, the college participation rate increased in six states (**Hawaii, Nebraska, Delaware, Louisiana, Tennessee and Arkansas**), held constant in one state (**South Carolina**) and declined in the remaining 44 states. The declines were greatest in **Connecticut, Vermont, Rhode Island, Maine, Wisconsin, New York, Minnesota and Massachusetts.**

College Participation Rates for Students from Low Income Families FY1993 to FY2001



The deteriorating college participation rates between FY1999 and FY2001 for students from low income families does not yet capture the effects of the very large public institution tuition and fee increases adopted in response to state appropriations cutbacks implemented in FY2002, nor the effects of reductions in state funding of financial aid programs used by students from low income families to help finance their postsecondary educations.

The seriousness of this situation becomes even greater from a longer term perspective. Throughout the 1990s when the economy was booming and jobs were more plentiful, the proportion of K-12 enrollment approved for free or reduced-price school lunches was growing. While a recent Department of Agriculture study questioned this growth, in fact the proportion of school children in minority (and usually poor) families was also growing during the 1990s.

In fact federal, state and institutional policies regarding admissions, affirmative action, financial aid, testing and high school graduation standards and other conditions required to support educational opportunity for students from low family incomes have tended to work against their educational interests and opportunities.

In this analysis we examine unpublished data prepared by the federal government to assess the status of postsecondary educational opportunity for students from low income families. These results describe a deteriorating picture for these students.

The Data and Analysis

Calculation method. The college participation rate for students from low income families is simply the ratio of two numbers.

- The numerator of the ratio is the number of dependent Pell Grant recipients by state of residence.
- The denominator of the ratio is the number of 4th to 9th graders approved for free or reduced-price school lunches nine years earlier.

This ratio is calculated by year and state.

Data sources. The data used here are not published but have been obtained through special requests to federal agencies. The data on dependent Pell Grant recipients by state of residence are compiled by the U.S. Department of Education at the end of each award year from Pell recipient data. These compilations are sometimes called the "research files" and selected data from these compilations appear in the annual *Pell Grant Program End-of-Year Report*. We obtained the state level data used in this study from Steve Carter at the Department of Education (202/502-7822).

The data on K-12 enrollment for low income families were obtained from the U.S. Department of Agriculture which administers the National School Lunch Program. Under the current Program students whose family incomes fall below 130 percent of the federal poverty level are eligible for free school lunches, and students whose family incomes fall between 130 and 185 percent of the federal poverty level are eligible for reduced-price school lunches.

The Department of Agriculture collects school enrollment and lunch program participation data from the states. Our request for these data was prepared by Jeffrey Derr at the Department of Agriculture (703/305-2879). We have posted the state data supplied by the Department of Agriculture on our website on the Spreadsheets page.

Data definitions. The intent of the analysis is to track a specific cohort of students from the time they are required to be enrolled in school through their college enrollment.

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Mission Statement

This research letter is founded on two fundamental beliefs. First, sound public social policy requires accurate, current, independent, and focused information on the human condition. Second, education is essential to the development of human potential and resources for both private and public benefit. Therefore, the purpose of this research letter is to inform those who formulate, fund, and administer public policy and programs about the condition of and influences that affect postsecondary education opportunity for all Americans.

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Many factors impinge on the precision of the cohort definition, but age is not one of them. Most students who were enrolled in 4th to 9th grades in a given year become 18 to 24 year olds nine years later. At this age they are treated as dependent family members for financial aid purposes.

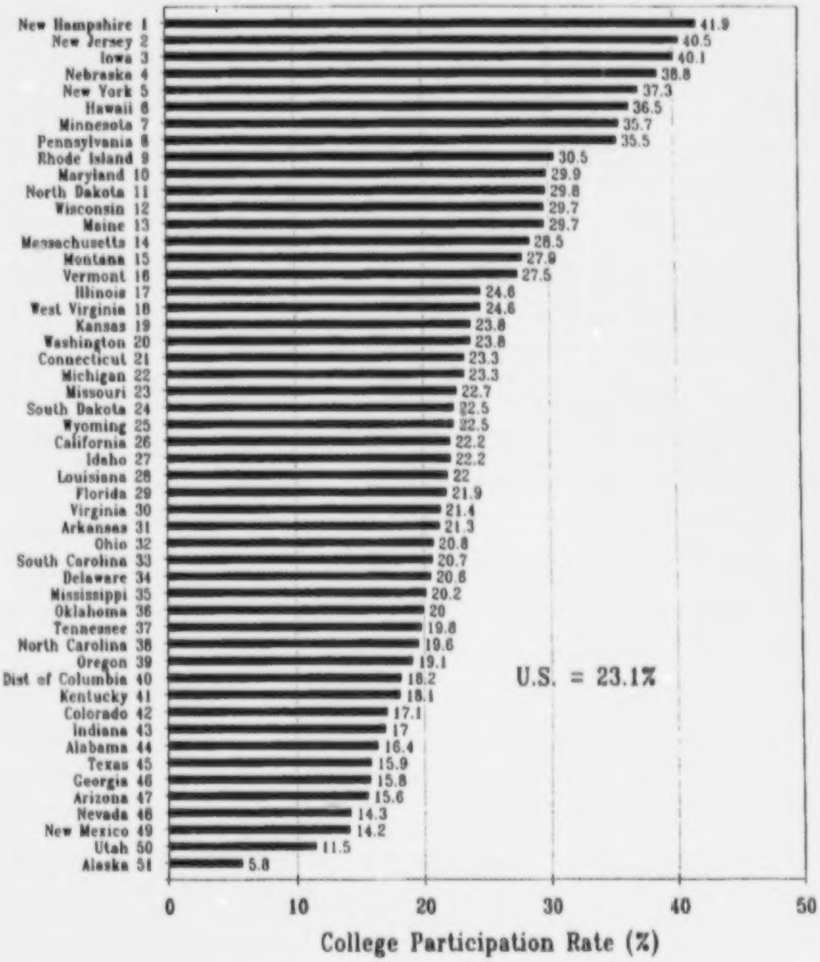
In this analysis we begin with graded public school enrollment data by state collected in the Common Core K-12 data survey by the National Center for Education Statistics. (These data are published annually in the *Digest of Education Statistics*.) We have summed for each state and year the number of students enrolled in 4th through 9th grades.

The proportion of the above students approved for free or reduced-price school lunches (and hence from families with incomes below 185 percent of the federal poverty level) is derived from reports prepared for OPPORTUNITY by the Child Nutrition Service of the U.S. Department of Agriculture. The product of the number of 4th through 9th graders and the rate at which K-12 students were approved for subsidized school lunches is the number of children from low income families used in the denominator of our calculation.

The current National School Lunch Program began with the 1992-93 school year (FY1993). To get the proportion of children from low income families in prior years we used the ratio of approved students in 1992-93 to the state poverty rate from the Census Bureau for 1992. We multiplied this ratio by the state poverty rate for prior years to estimate the proportion of 4th to 9th graders who would have been approved for free or reduced-price school lunches in those prior years back to the 1983-84 school year. Beginning with the FY2002 Pell Grant data OPPORTUNITY will begin using actual rather than estimated approval rates for subsidized school lunch program from 1992-93 forward.

College Participation for Students from Low Income Families

FY2001



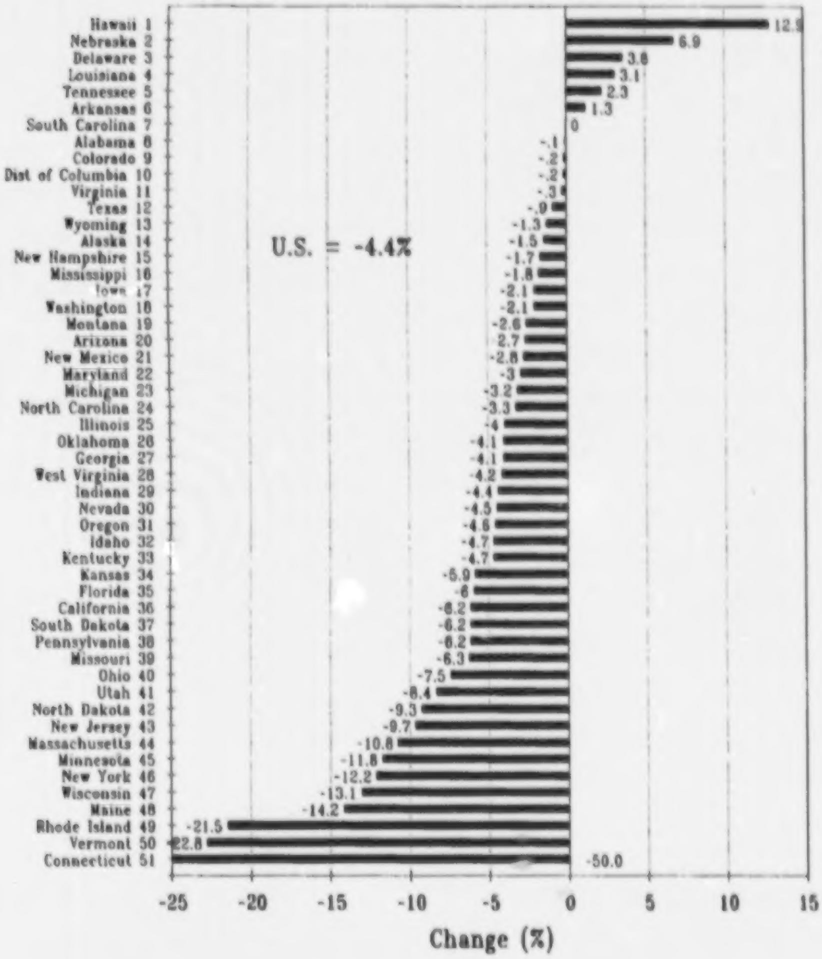
The numerator of the ratio is the number of dependent Pell Grant recipients by state of residence. These data are compiled but not published by the Department of Education. We are only interested in dependent recipients both because this definition captures an age group, those age 24 or below, and because we know by their Pell eligibility that they come from low or lower-middle income families. These data are also tabulated both by state of institution and state of residence of the Pell Grant recipients. We use the latter to tie these recipients back to the state in which they were raised.

Availability. All of the data used in this analysis were compiled in a single large Excel workbook which is available on our website.

http://www.postsecondary.org

The spreadsheet is titled "College Participation Rates for Students from Low Income Families by State, 1992-93 to 2000-01" available on the Spreadsheets page. State level data on dependent Pell Grant recipients, K-12

Change in College Participation Rates for Students *from Low Income Families, FY1999 through FY2001*



enrollments and subsidized school lunch approval rates are available on the state worksheets.

Trends

The chart on the first page of this issue of OPPORTUNITY shows the proportion of children from low income families enrolled in college between FY1993 through FY2001. Over this nine year period, the proportion reaching college increased from 20.0 percent in FY1993 to a peak of 27.5 percent in FY1999.

But then in FY2000 the participation rate declined to 24.5 percent. Again in FY2001 this rate declined further to 23.1 percent which was the lowest rate since FY1996.

Over this period the cohort of children in low income families declined from 6.9 million in FY1984 to a low of 5.8 million in FY1989. Since then the numbers have risen steadily to a peak of 8.6 million by FY1999. (Note that a recent study of families approved for subsidized school lunches found that some families were not eligible. This study did not address the numbers of families who were eligible but had not applied for subsidized eligibility.)

The number of dependent Pell Grant recipients increased from about 1.4 million in FY1993 through FY1997, to about 1.6 million in FY1999 through FY2001.

Thus the substantial increase in the college participation rate between FY1993 and FY1999 results from both an increase in the number of dependent Pell Grant recipients (numerator) and a decline in the number of students approved for subsidized school lunches (denominator). And the substantial decline in the college participation rate between FY1999 and FY2001 results from a fairly stable number of dependent Pell Grant recipients but a large increase in the number of children from low income families.

Patterns

In FY2001 the national college participation rate for students from low income families stood at 23.1 percent. However, this rate varied widely across the states, from a low of 5.8 percent in **Alaska** to a high of 41.9 percent in **New Hampshire**.

Across the 50 states plus DC, 15 states had college participation rates for low income students below 20 percent in FY2001. Besides Alaska, the remaining ten states with the lowest college participation rates for students from low income families were: **Utah** (11.5 percent), **New Mexico** (14.2 percent), **Nevada** (14.3 percent), **Arizona** (15.6 percent), **Georgia** (15.8 percent), **Texas** (15.9 percent), **Alabama** (16.4 percent), **Indiana** (17.0 percent) and **Colorado** (17.1 percent).

Eight states had college participation rates for students from low income families greater than 35 percent in

FY2001. Besides New Hampshire, these were: **New Jersey** (40.5 percent), **Iowa** (40.1 percent), **Nebraska** (38.8 percent), **New York** (37.3 percent), **Hawaii** (36.5 percent), **Minnesota** (35.7 percent) and **Pennsylvania** (35.5 percent).

Recent Changes in States

In the national data the college participation rate for students from low income families declines by 4.4 percent between FY1999 and FY2001, from 27.5 to 23.1 percent.

However, between FY1999 and FY2001 the participation rate actually increased six states. These states were: **Hawaii** (+12.9 percent), **Nebraska** (+6.9 percent), **Delaware** (+3.6 percent), **Louisiana** (+3.1 percent), **Tennessee** (+2.3 percent) and **Arkansas** (+1.3 percent). In one state--**South Carolina**--there was no change between FY1999 and FY2001.

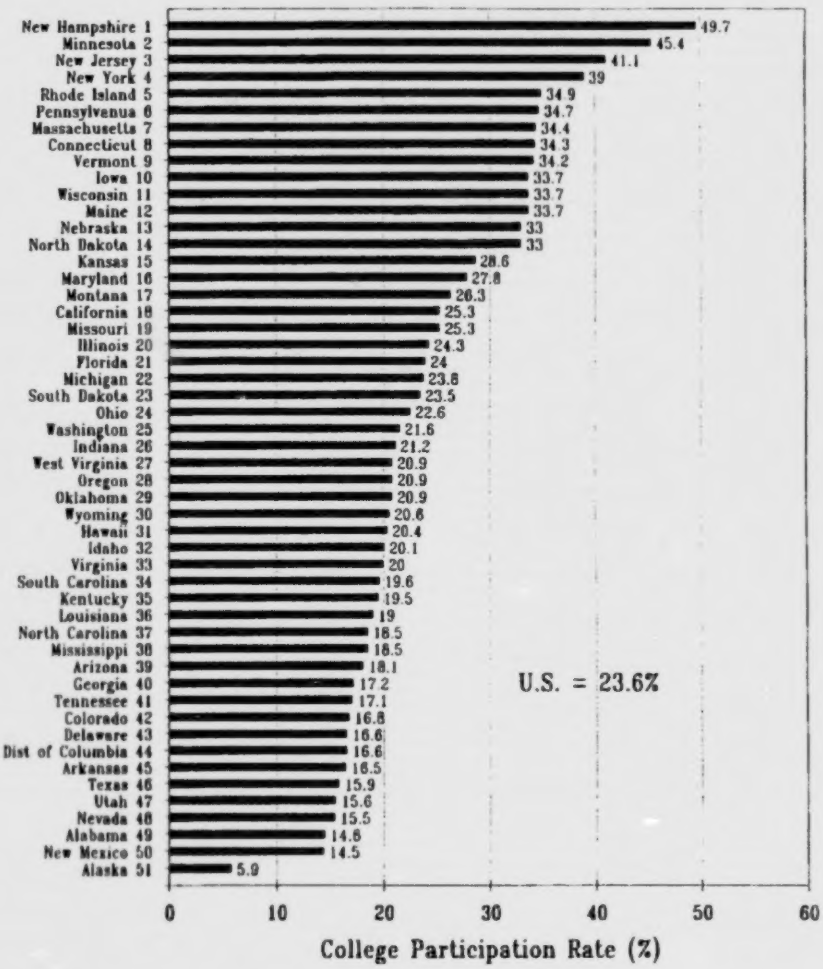
But in the remaining 44 states the participation rate for students from low income families declined between FY1999 and FY2001. The range was -0.1 percent in **Alabama** to -50.0 percent in **Connecticut**. Besides Connecticut, the states where the low income participation rate declined the most were: **Vermont** (-22.8 percent), **Rhode Island** (-21.5 percent), **Maine** (-14.2 percent), **Wisconsin** (-13.1 percent), **New York** (-12.2 percent), **Minnesota** (-11.8 percent) and **Massachusetts** (-10.8 percent). Clearly the New England States lost major ground between FY1999 and FY 2001.

Underlying Patterns and Trends

The data we have reported have been based, in part, on sampled data. We used state poverty rates to estimate the proportion of school children receiving subsidized school lunches. These sampled data have standard errors of measurement which result in statistical noise or spiking. Thus some of the reported fluctuation may be due to this noise problem and may not actually reflect fluctuation in college participation rates for students from low income families.

College Participation for Students from Low Income Families

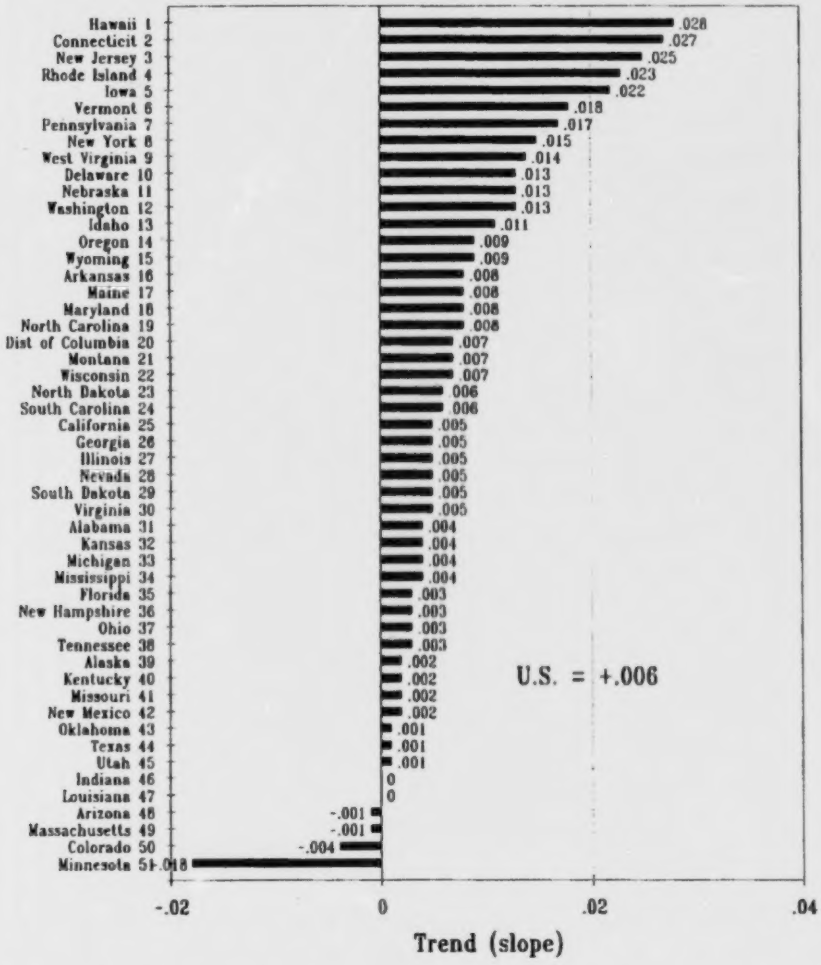
Average of State Rates FY1993 through FY2001



Therefore our analysis averages college participation rates in each state for the last nine years of available data and plots the trend line through these nine observations. The average college participation rate by state over the last nine years is shown in the chart on this page. New Hampshire is still at the top of the list, and Alaska is still at the bottom. Here the usual regional patterns are evident. Clustered at the top of the ranking are the same northeastern and north central states that usually rank at the top of most state rankings of education performance. And clustered near the bottom are the same western and southern states that often appear near the bottom of our state rankings.

But more important than the ranking of states by average participation rates are the changes that are occurring in states to improve participation rates for students from low income families.

Trend in College Participation Rates for Students from Low Income Families, FY1993 through FY2001



Thus the chart on this page shows the trend in each state in low income participation rates between FY1993 and FY2001.

For the country the trend is positive. The slope of the regression line is +.006. Despite the reversals of the last two years, the nine year trend is toward improving participation rates.

This finding is also true in most states. The trend is positive--participation rates have improved--in 45 of the 51 states (including DC). The states with the strongest growth in low income participation rates between FY1993 and FY2001 were: **Hawaii** (+.028), **Connecticut** (+.027), **New Jersey** (+.025), **Rhode Island** (+.023) and **Iowa** (+.022).

Two states had flat trends over this time period. These were **Indiana** and **Louisiana**.

Four states had negative trends in college participation rates for students from low income families. These states were **Minnesota, Colorado, Massachusetts** and **Arizona**. (Minnesota's case appears to be influenced by a statistical spike.)

Conclusion

College participation is a greater challenge for students from low income families than it is for students from higher family income backgrounds. The barriers these students face are not just financial. Indeed if financial barriers were fully addressed there would be only small improvements in college participation. Efforts to remove barriers to higher education must begin long before college.

What these data find is that students who were born into families with low incomes have experienced increasing difficulty reaching higher education in the 1999-2000 and 2000-01 fiscal years compared to prior years. Their participation rates have declined from 27.5 to 23.1 percent in just two years. This decline has been widespread having occurred in nearly all of the states. The breadth of this decline suggests the causes are also widespread.

Observed enrollments in higher education are the result of intersecting student demand for higher education and institutional supply of capacity. The sorting out of causes for the decline in participation rates must consider both factors influencing student demand and institutional supply. We think there are many likely influences on the declining participation of these students in higher education. Among them are:

- Strong labor market alternatives to college enrollment still present in 1999 and 2000.
- Growing college affordability problems, particularly for students from low income families.
- Increasing high school graduation expectations by states.
- Growing disinterest by four-year institutions in enrolling students from low income families.

College Participation Rates for Students from Low Income Families by State

FY1993 to FY2001

	Fiscal Year										Trend
State	1993	1994	1995	1996	1997	1998	1999	2000	2001	Mean	(slope)
Alabama	13.6%	15.4%	13.6%	11.5%	13.1%	15.5%	16.5%	15.9%	16.4%	14.6%	0.004
Alaska	4.5%	5.5%	6.5%	5.4%	5.5%	6.6%	7.3%	6.1%	5.8%	5.9%	0.002
Arizona	16.3%	14.3%	23.3%	18.5%	20.0%	19.1%	18.3%	17.0%	15.6%	18.1%	-0.001
Arkansas	16.0%	13.6%	14.0%	14.6%	14.8%	16.0%	20.0%	18.4%	21.3%	16.5%	0.008
California	16.5%	24.1%	25.3%	28.4%	30.0%	28.1%	28.4%	25.1%	22.2%	25.3%	0.005
Colorado	16.4%	21.8%	18.9%	14.0%	15.8%	16.4%	17.3%	13.7%	17.1%	16.8%	-0.004
Connecticut	17.2%	25.1%	24.3%	31.8%	30.1%	51.3%	73.3%	32.3%	23.3%	34.3%	0.027
Delaware	14.1%	12.4%	11.1%	10.4%	21.9%	18.3%	17.0%	23.3%	20.6%	16.6%	0.013
Dist of Columbia	12.2%	12.3%	13.0%	20.6%	19.4%	20.3%	18.4%	14.8%	18.2%	16.6%	0.007
Florida	20.7%	20.0%	23.0%	27.7%	26.4%	25.0%	27.9%	22.9%	21.9%	24.0%	0.003
Georgia	13.1%	15.3%	14.6%	18.3%	19.0%	20.9%	19.9%	17.7%	15.8%	17.2%	0.005
Hawaii	9.0%	15.0%	14.2%	16.1%	22.9%	21.4%	23.6%	25.4%	36.5%	20.4%	0.028
Idaho	16.4%	16.6%	17.5%	15.3%	19.6%	25.0%	26.9%	21.0%	22.2%	20.1%	0.011
Illinois	23.4%	22.2%	20.5%	24.3%	23.2%	27.5%	28.6%	24.5%	24.6%	24.3%	0.005
Indiana	18.9%	21.1%	21.6%	19.6%	22.9%	27.4%	21.4%	20.8%	17.0%	21.2%	0
Iowa	26.9%	28.6%	22.8%	31.7%	28.2%	45.4%	42.2%	37.7%	40.1%	33.7%	0.022
Kansas	24.5%	29.0%	22.2%	27.4%	33.6%	38.6%	29.7%	28.6%	23.8%	28.6%	0.004
Kentucky	20.0%	17.8%	17.2%	18.7%	19.8%	20.5%	22.8%	20.1%	18.1%	19.5%	0.002
Louisiana	18.7%	19.2%	22.1%	18.1%	16.0%	18.3%	18.9%	17.8%	22.0%	19.0%	0
Maine	26.4%	27.7%	31.9%	38.8%	35.5%	33.3%	43.9%	33.3%	29.7%	33.4%	0.008
Maryland	23.9%	25.4%	26.3%	26.4%	28.7%	29.0%	32.9%	28.0%	29.9%	27.8%	0.008
Massachusetts	32.0%	33.0%	32.7%	34.0%	40.0%	40.0%	39.3%	29.9%	28.5%	34.4%	-0.001
Michigan	21.6%	21.2%	22.4%	22.2%	26.0%	27.7%	26.5%	23.0%	23.3%	23.8%	0.004
Minnesota	48.4%	63.3%	42.4%	41.4%	45.8%	44.8%	47.5%	38.8%	35.7%	45.4%	-0.018
Mississippi	17.4%	18.1%	17.7%	16.5%	18.5%	17.7%	22.0%	18.2%	20.2%	18.5%	0.004
Missouri	23.6%	25.1%	25.2%	23.6%	24.4%	28.0%	29.0%	25.7%	22.7%	25.3%	0.002
Montana	23.8%	25.4%	23.3%	23.4%	23.9%	31.2%	30.5%	27.3%	27.9%	26.3%	0.007
Nebraska	29.5%	30.9%	26.5%	29.2%	33.9%	39.3%	31.9%	37.2%	38.8%	33.0%	0.013
Nevada	15.4%	12.6%	9.2%	17.5%	14.6%	20.0%	18.8%	17.4%	14.3%	15.5%	0.005
New Hampshire	33.3%	41.3%	47.6%	79.8%	63.7%	47.6%	43.6%	48.5%	41.9%	49.7%	0.003
New Jersey	24.5%	30.1%	37.7%	37.6%	43.5%	62.8%	50.2%	43.0%	40.5%	41.1%	0.025
New Mexico	12.3%	15.4%	15.6%	13.1%	14.7%	13.1%	17.0%	15.3%	14.2%	14.5%	0.002
New York	29.6%	32.4%	33.4%	42.0%	40.6%	45.3%	49.5%	40.9%	37.3%	39.0%	0.015
North Carolina	15.2%	16.2%	16.4%	16.3%	17.7%	20.8%	22.9%	21.2%	19.6%	18.5%	0.008
North Dakota	33.0%	28.1%	26.2%	31.3%	37.1%	39.9%	39.1%	32.9%	29.8%	33.0%	0.006
Ohio	22.0%	21.4%	21.5%	20.7%	21.3%	23.3%	28.3%	24.2%	20.8%	22.6%	0.003
Oklahoma	19.5%	23.3%	19.1%	21.3%	19.3%	19.9%	24.1%	22.0%	20.0%	20.9%	0.001
Oregon	14.3%	19.6%	20.6%	20.1%	17.7%	25.2%	23.7%	27.4%	19.1%	20.9%	0.009
Pennsylvania	24.0%	23.7%	35.0%	37.5%	37.3%	40.7%	41.7%	36.6%	35.5%	34.7%	0.017
Rhode Island	18.3%	23.8%	34.2%	35.0%	42.3%	36.1%	52.0%	41.8%	30.5%	34.9%	0.023
South Carolina	15.3%	18.5%	20.2%	17.8%	20.3%	21.7%	20.7%	20.9%	20.7%	19.6%	0.006
South Dakota	21.5%	24.4%	19.9%	20.3%	22.4%	25.9%	28.7%	25.5%	22.5%	23.5%	0.005
Tennessee	16.5%	17.4%	15.8%	14.9%	16.9%	17.0%	17.5%	18.1%	19.8%	17.1%	0.003
Texas	16.5%	15.6%	15.4%	14.7%	15.2%	15.5%	16.8%	17.4%	15.9%	15.9%	0.001
Utah	13.8%	17.0%	16.1%	12.9%	15.3%	15.8%	19.9%	18.2%	11.5%	15.6%	0.001
Vermont	17.9%	25.3%	36.2%	31.4%	38.8%	47.1%	50.3%	33.7%	27.5%	34.2%	0.018
Virginia	15.9%	18.9%	19.3%	20.5%	21.4%	21.1%	21.7%	19.8%	21.4%	20.0%	0.005
Washington	16.9%	17.7%	17.1%	16.7%	23.0%	27.6%	25.9%	25.8%	23.8%	21.6%	0.013
West Virginia	16.6%	17.9%	16.5%	16.5%	18.1%	24.3%	28.8%	24.4%	24.6%	20.9%	0.014
Wisconsin	36.8%	23.7%	29.7%	31.2%	32.1%	44.4%	42.8%	33.2%	29.7%	33.7%	0.007
Wyoming	17.9%	19.6%	17.1%	13.9%	21.6%	27.0%	23.8%	21.8%	22.5%	20.6%	0.009
Total	20.0%	21.6%	22.2%	23.2%	24.4%	26.3%	27.5%	24.5%	23.1%	23.6%	0.006

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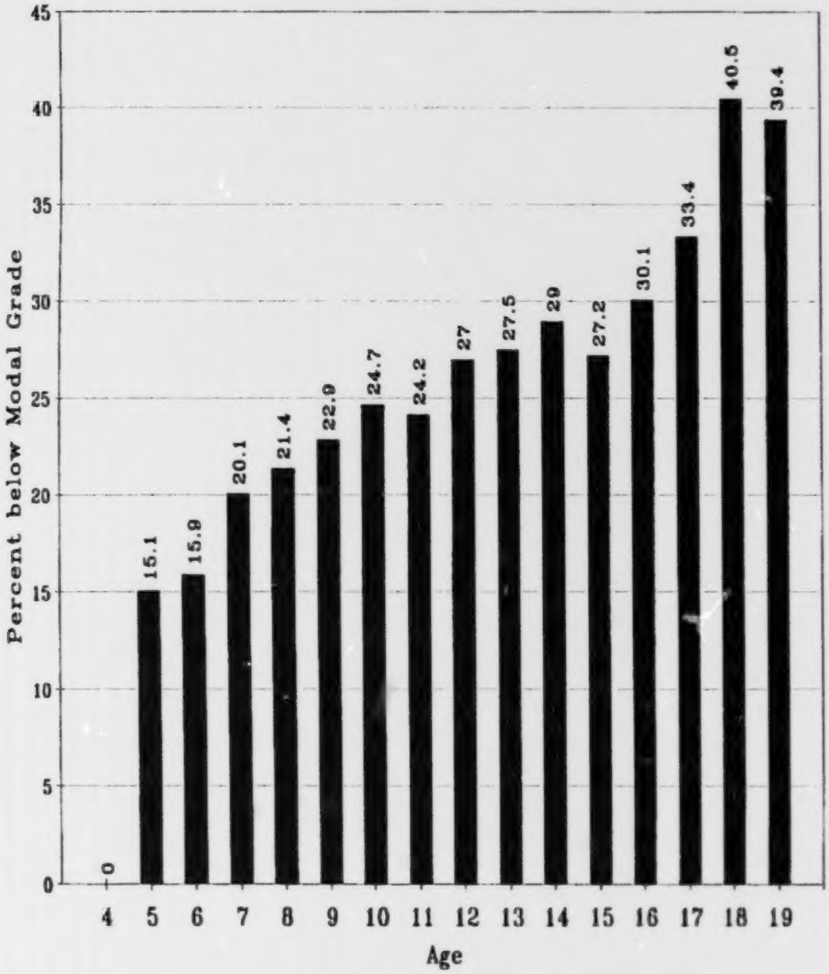
Redshirting Kindergartners: Enrollment below Modal Grade
1971 to 2000

In the United States compulsory school enrollment begins at or shortly after a child reaches his or her sixth birthday. Thereafter compulsory student enrollment continues and progresses through the grades until the sixteenth birthday is reached when school attendance becomes voluntary. Students may then drop out of high school or persist to high school graduation and even college, but on a voluntary basis.

However, some children may begin their school attendance somewhat earlier or later depending on parental and school judgement about the readiness of the child. Those held out of kindergarten are held back a year, usually to mature, and this is sometimes called "redshirting kindergartners." Moreover, some students are retained in grade once they have started school until satisfactory progress and mastery of material is indicated. These students may too fall behind their age peers.

Enrollment below Modal Grade/Class Ages 4 to 19 Years
October 2000



For three decades the Census Bureau has compiled and reported data on the proportion of school children and college students enrolled below the modal grade level for people of the same age. These are children and young adults who are older than their classmates. They may have been held back from starting school, or they may have been held back once they began their school enrollment. In any case, their grade-to-grade progression through graded school enrollment has been delayed.

To illustrate school enrollment below modal grade level, we follow a specific cohort of school-age students over time as follows:

- In October 1991, 21.2 percent of the population of 6 to 8 year olds were enrolled below modal grade level. That is they were older than most of their classmates.
- Three years later in October 1994 when these students were 9 to 11 years old, 26.2 percent were enrolled below modal grade level.
- Six years later in October 1997 when these students were 12 to 14 years old, 28.5 percent were enrolled below modal grade level.
- Nine years later in October 2000 when these students were 15 to 17 years old, 30.2 percent of those who were still enrolled in school were enrolled below modal grade level.

Because of our interest in monitoring the future populations of college-age students, we carefully monitor the K-

12 education pipeline. We are interested in the numbers of students headed toward college, their characteristics (family income, race/ethnicity, gender, etc.), forms of completing high school (regular diploma/GED/dropout), geographic distribution, academic preparation and other factors that influence participation in postsecondary education. Here we are also interested in factors that influence age, maturity, and success in school, particularly high school.

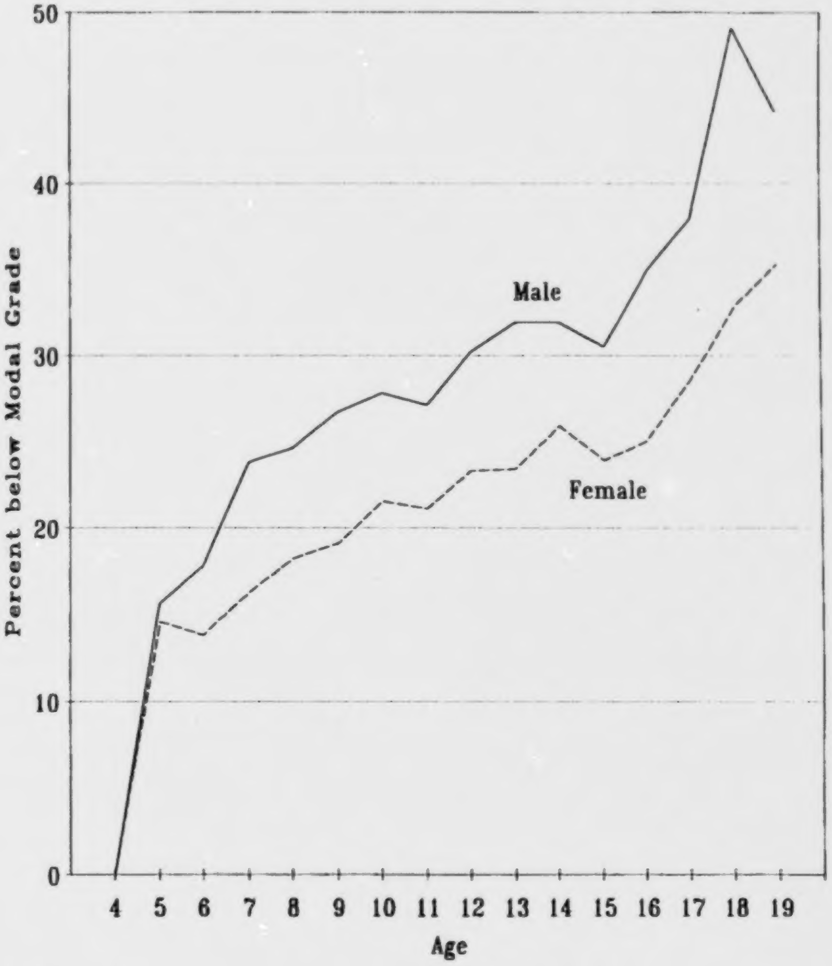
School enrollment below modal grade provides both good and bad signals. The best finding, as shown here, is that the dropout rate has declined as enrollment below modal grade has increased. The worst finding is that enrollment below modal grade reflects a risk factor in high school attrition and has grown over time.

The Data

The data used in this analysis have been collected by the Census Bureau in the October *Current Population Survey*. The results are published in the P20 series of *Current Population Reports*. These data have been compiled for the last 30 surveys spanning the period from 1971 through 2000.

The *Current Population Survey* is a monthly survey of about 50,000 U.S. households. The survey is administered by the Census Bureau and is limited to the civilian, noninstitutional population of the United States. Its primary purpose is to collect data on employment and unemployment of household members. But in October of each year an education supplement gathers additional data on the enrollment of family members in educational institutions.

Enrollment below Modal Grade/Class Ages 4 to 19 Years by Gender, October 2000



The data from this survey used here were taken from Table 2 of the October 2000 report on school enrollments, and the historical Table A3. Both of these tables may be downloaded from the same page on the Census Bureau's website at:

http://www.census.gov/population/www/socdemo/school.html

Enrollment below Modal Grade

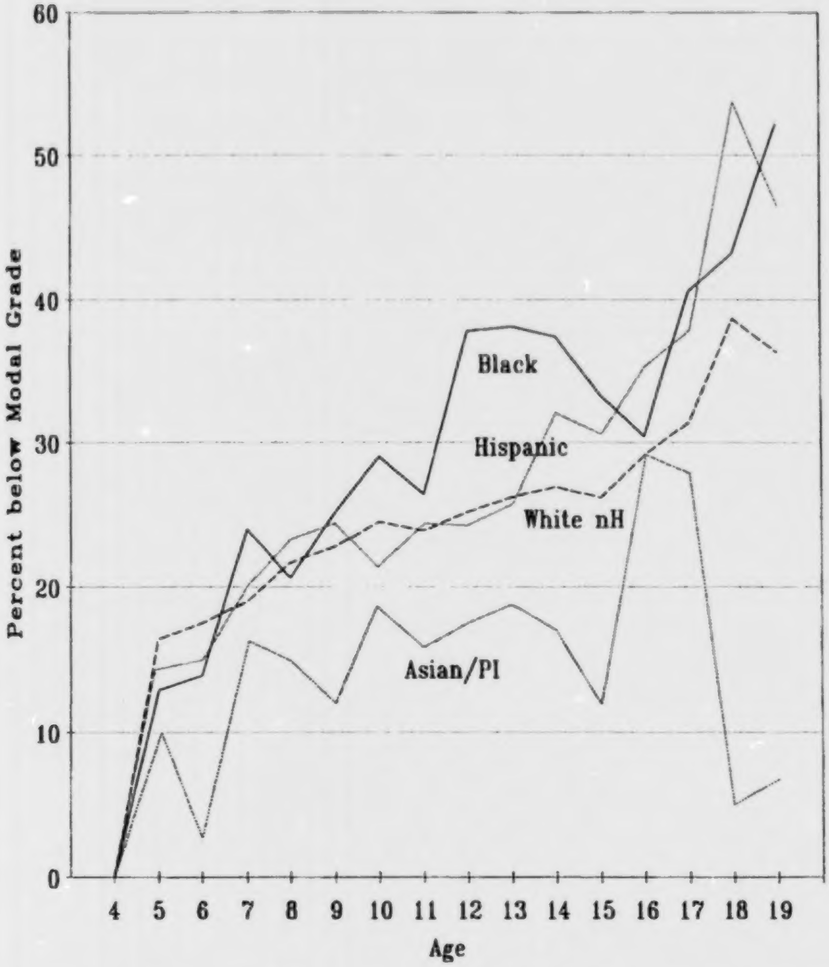
The chart on page 8 shows the proportion of the population at each age level (in October 2000) that was enrolled below modal grade level. That is: these proportions were enrolled below the grade (or college class level at ages 18 and 19) that most of those at each age level were enrolled.

For example, at age 6:

- 75,000 were enrolled in nursery school
- 543,000 were enrolled in kindergarten
- 3,076,000 were in first grade
- 158,000 were in second grade
- 47,000 were in third grade

Thus, of the 3,899,000 6 year olds enrolled in school, 618,000 or 15.9 percent were enrolled below the modal first grade.

Enrollment below Modal Grade/Class Ages 4 to 19 Years by Race/Ethnicity, October 2000



As the chart on page 8 indicates, a steadily growing share of students at each age are enrolled below their modal grade. The proportion rises from 15 percent at age 5 to over 40 percent of those still enrolled by age 18 (where the modal grade is college freshman).

Gender. The chart on page 9 shows the enrollment below modal grade by age and gender in October 2000.

Here the gender difference is clear. From age 6 on boys are considerably more likely than girls to be enrolled below modal grade. At age 6 17.8 percent of the boys are enrolled below modal grade level compared to 13.8 percent of the girls. The difference is 4 percentage points. By age 7 this gap has spread to 7.6 percent.

After age 7 the proportion of both boys and girls enrolled below modal grade level continues to rise. But it rises faster for boys than it does for girls. By age 17 the gap has widened to 9.3 percentage points.

Clearly decisions about the grade at which children should be enrolled in school are made often, for both boys and girls. The first decisions appear to be made about age 6 when more boys than girls are held back in school, probably by joint agreement between parents and school officials.

But these decisions continue through years of schooling. Between age 7 and age 17 the proportion of boys enrolled below modal grade level rises by 14.1 percentage points. The proportion of girls enrolled below modal grade level increases by 12.4 percentage points.

Between the genders decisions about enrollment below modal grade level are made earlier and more often for boys than for girls.

Race/ethnicity. The chart on this page shows the enrollment below modal grade level for four distinct racial/ethnic groups of the population: white non-Hispanic, black, Asian/Pacific Islander and Hispanic.

The previous patterns hold for most groups: enrollment below modal grade increases with age. But there are interesting differences.

Asian/Pacific Islanders are least likely to be enrolled below modal grade. This is true among the very young and remains true throughout their elementary and secondary education and the first two years of college. This is a pattern seen in other data as well: Asians tend to move through the education faster and more efficiently than do other groups.

Blacks are generally most likely to be enrolled in school below modal grade. This shows up at age 7 when a substantial number are held back in first grade. This enrollment pattern holds until the mid-teens, then shows up again in the first two years of college.

White non-Hispanics are most likely to

begin their enrollment below modal grade at ages 5 and 6. But by age 14 white non-Hispanics are less likely than blacks or Hispanics to be enrolled below modal grade.

Hispanics follow the pattern of whites up until age 14, then begin lagging. From age 14 a growing share of Hispanics are enrolled below modal grade compared to whites.

Trends by Age

Three decades of historical data on school enrollment below modal grade have been compiled and reported by the Census Bureau. This trend data provides a valuable record.

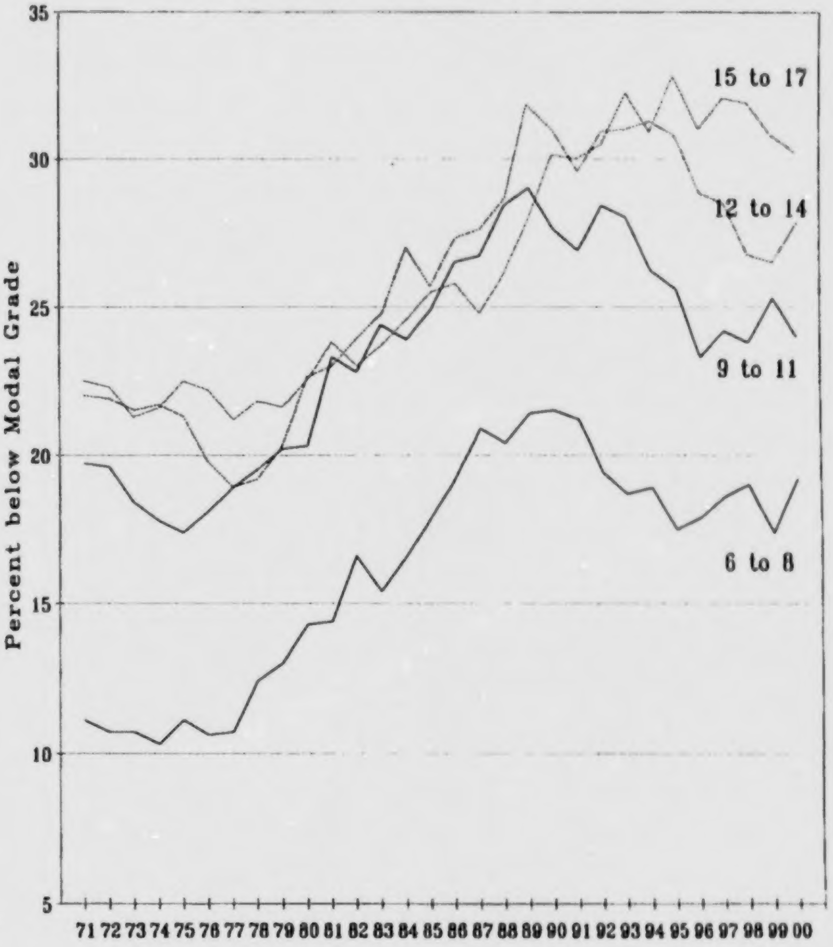
Ages 6 to 8. Notably, these trend data provide information on when the choice to begin redshirting kindergartners began. As the chart on this page shows the proportion of school children ages 6 to 8 enrolled below modal grade level began to surge in 1978.

In 1977 10.7 percent of 6 to 8 year olds were enrolled below modal grade. Between 1971 and 1977 the rate had fluctuated between 10.3 and 11.1 percent. But in 1978 the rate increased to 12.4 percent, then increased nearly every year thereafter until it peaked at 21.5 percent in 1990. Since 1990 the enrollment of 6 to 8 year olds below modal grade has tapered off slightly to 19.2 percent by 2000.

Ages 9 to 11. Exactly three years after they are ages 6 to 8, children inevitably become 9 to 11 years old. The delayed enrollment pattern established at the beginning of formal schooling not only persists, but a few additional students have been held back. Thus the proportion of 9 to 11 year olds enrolled below modal grade has also surged.

The proportion of 9 to 11 year olds enrolled below modal grade decreased from 19.7 percent in 1971 to a low of 17.4 percent in 1975, then rose rapidly and steadily to 29.0 percent in 1989. Thereafter the rate declined and by 2000 stood at 24.0 percent.

K-12 Age Population Enrolled below Modal Grade
1971 to 2000



Ages 12 to 14. Exactly three years after age 9 to 11 years, these students are 12 to 14 years old. The redshirting practices expanded earlier show up in the shifting shares enrolled below modal grade here too. In 1971 the proportion of 12 to 14 year olds enrolled below modal grade stood at 22.0 percent. This declined to a low of 18.9 percent in 1977, then rose to a peak of 31.3 percent in 1993. This proportion has predictably declined to 27.8 percent by 2000 and will likely decline over the next several years.

Ages 15 to 17. The demographic pig-in-the-python has affected enrollment below modal grade among high school age students as well. The proportion of this age group enrolled below modal grade stood at 22.5 percent in 1971, declined to 21.1 percent in 1977, then rose to 32.3 percent in 1993. Since then it has declined slightly to 30.2 percent by 2000.

This too could decline in the future assuming traditional high school dropout behaviors among those no longer required by law to be enrolled in school. However, as we will see later in this analysis, the redshirting of students earlier in their lives has altered the historical pattern of high school attrition and persistence.

Trends by Gender

The Census Bureau's data usefully describe trends in enrollment below modal grade by gender. Here we focus on those 15 to 17 years old. In October 2000 34.3 percent of the males and 25.8 percent of the females in this age group were enrolled below modal grade.

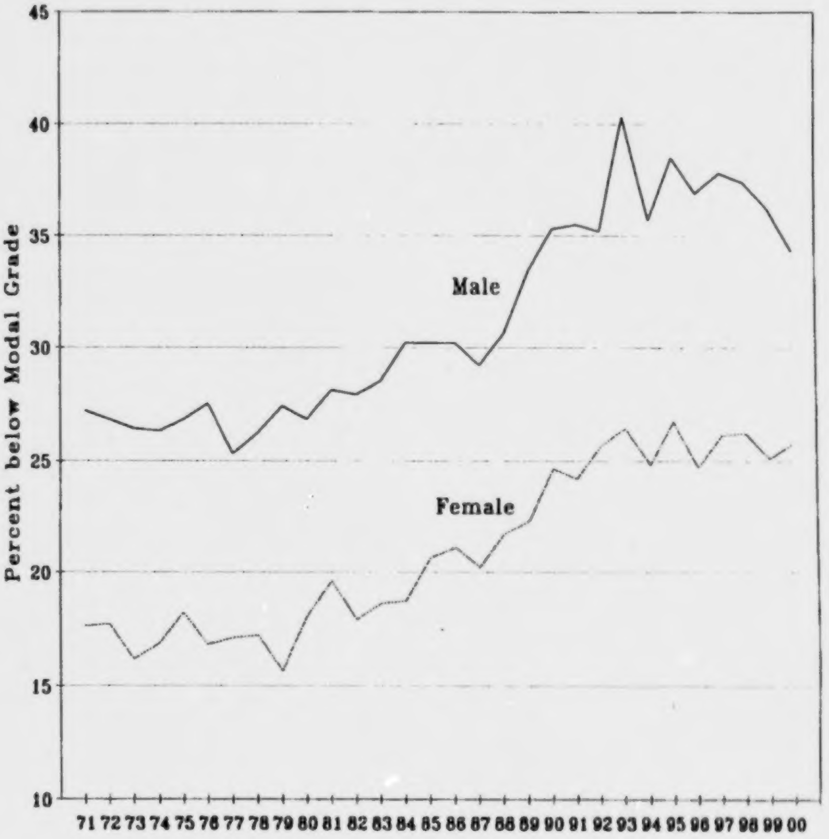
The first chart on this page shows the proportion of 15 to 17 year olds still enrolled (attrition begins to occur in these years) but below modal grade over the last three decades, 1971 and 2000.

The trends are clear and so is the difference between the male and female rates. For both males and females the proportion of 15 to 17 year olds enrolled below modal grade increased over the last three decades. For both males and females this increase occurred mainly between 1980 and 1993. There was little change between 1971 and 1980, and little change after 1993 (except a decline for males).

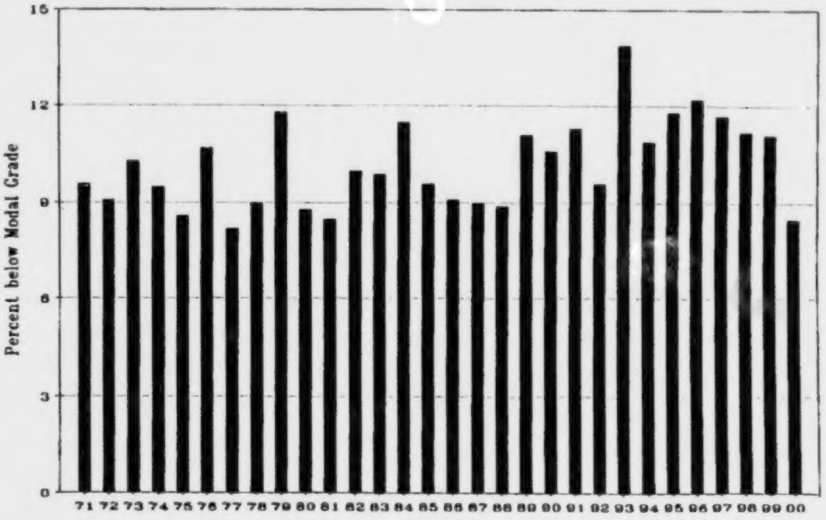
The difference between the male and female rate has varied relatively little over this time period, as shown in the second chart on this page.

- In 1971 the male rate stood 9.6 percentage points greater than the rate for females. In 1980 it was 8.8 percent greater, in 1990 10.6 percent, and in 2000 was 8.5 percent greater.
- But between 1971 and 1988, the male rate averaged 9.6 percent above the female rate. Then

Population of 15 to 17 Year Olds by Gender
Enrolled below Modal Grade
1971 to 2000



Male Rate Less Female Rate Enrolled below Modal Grade
1971 to 2000

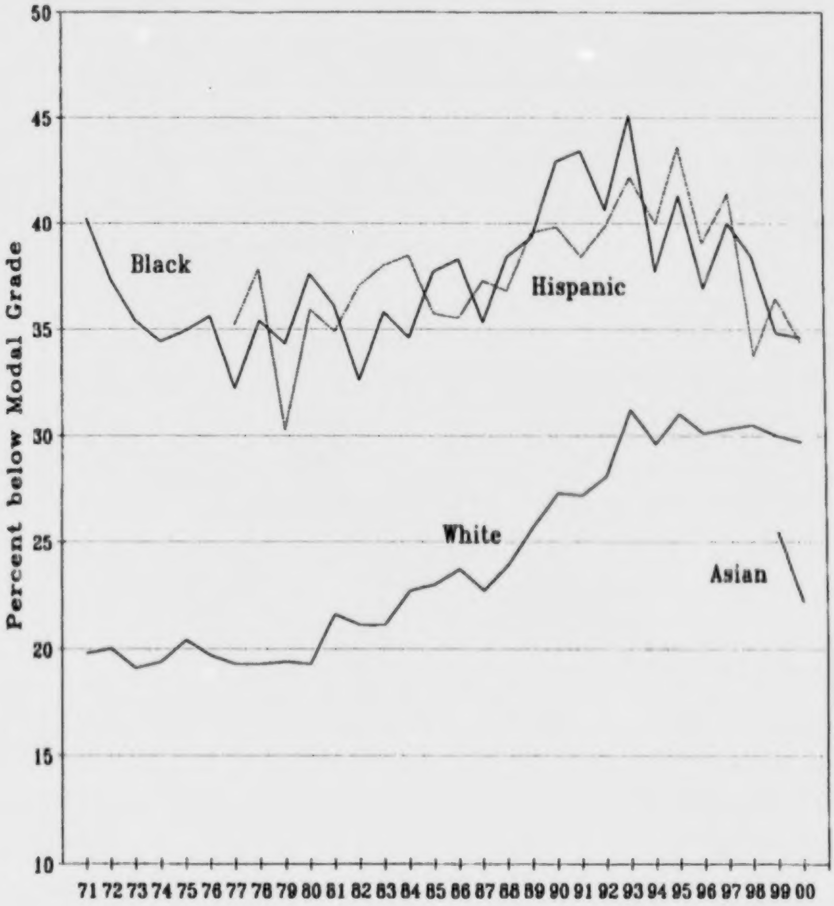


between 1989 and 2000 the male rate averaged 11.1 percent above the female rate.

Trends by Race/Ethnicity

The chart on this page shows enrollment below modal grade for 15 to 17 year olds by race/ethnicity: white (including Hispanic), black (including Hispanic), Asian/Pacific Islander and Hispanic (double counted above). While the white and black data begin in 1971, the Hispanic data do not begin until 1977 and the Asian data do not begin until 1999. (This is due to the small samples sizes in the Current Population Survey of relatively small populations.) These trends vary widely across these four population groups.

Population of 15 to 17 Year Olds by Race/Ethnicity
Enrolled below Modal Grade
1971 to 2000



Whites were 79 percent of the population of 15 to 17 year olds in 2000. They were 86 percent in 1971, and if Hispanics are excluded white non-Hispanics were 66 percent of the population of 15 to 17 year olds in 2000. The proportion enrolled below modal age increased from 19.9 percent in 1971 to 29.7 percent in 2000, an increase of 9.8 percentage points. All of this growth occurred between 1980 and 1993.

Blacks were 15.5 percent of the population of 15 to 17 year olds in 2000, up from 12.9 percent in 1971. The proportion of blacks in this age range enrolled below modal grade level decreased from 40.2 percent in 1971 to a low of 32.2 percent in 1977, then rose to a peak of 45.1 percent in 1993 before dropping back to 34.6 percent by 2000. Between 1971 and 2000 the rate declined by 5.6 percentage points (compared to an increase of 9.8 points for whites).

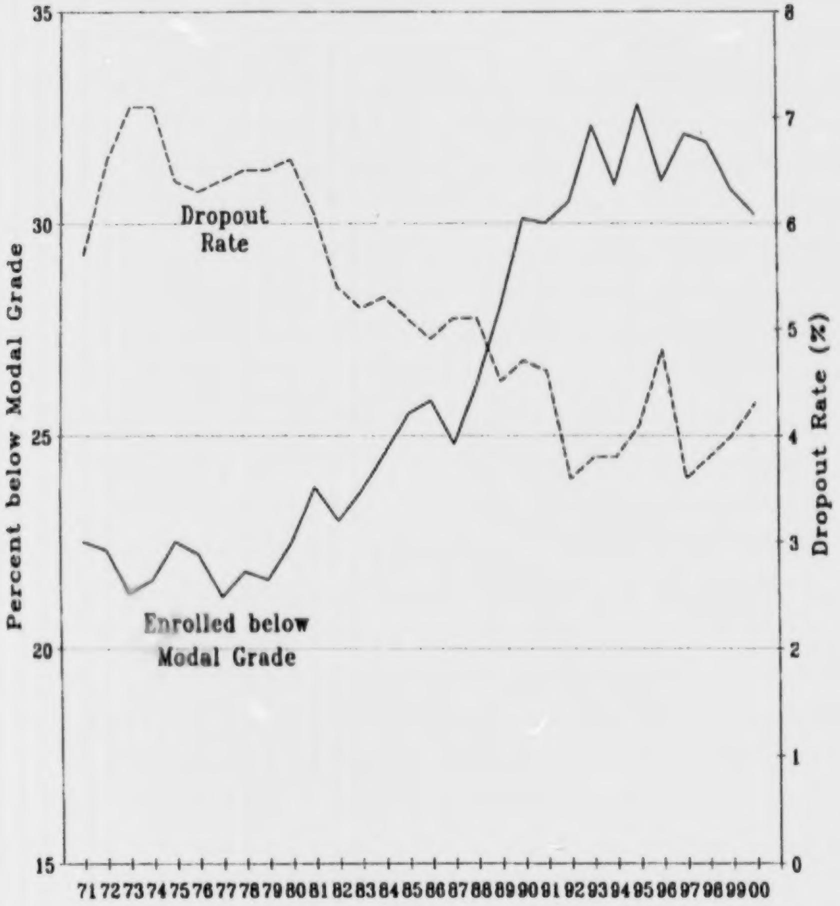
Hispanics have grown from 6.2 percent of the population of 15 to 17 year olds in 1977 to 14.0 percent by 2000. The proportion of these enrolled below modal grade level increased from 35.2 percent in 1977 to a peak of 43.6 percent in 1995 and has since declined to 34.4 percent in 2000. Like blacks, the Hispanic enrollment rate below modal grade declined.

Asian/Pacific Islanders comprised 4.0 percent of the population of 15 to 17 year olds in 2000. The Census Bureau has reported data on this group only since 1999. In these two years their share of 15 to 17 year olds enrolled below modal grade has been 25.5 percent in 1999 and 22.2 percent in 2000. These rates are well below those of any other racial/ethnic group.

What stands out in these comparisons across racial/ethnic groups is the growth among whites in the proportion of 15 to 17 year olds enrolled below modal grade. Over the period of available data the rate declined for blacks, Hispanics and Asians. But for whites the rate increased substantially.

Apparently this is the reflection of decisions made early in the educational careers of mainly white children. Among white children ages 6 to 8 years, the rate of enrollment below modal grade increased from about 10.5 percent between 1971 and 1977,

15 to 17 Year Olds Enrolled below Modal Grade
Compared to Dropout Rate for 15 to 17 Year Olds
1971 to 2000



to a peak of 22.4 percent in 1989. This rate has since declined slightly to 19.4 percent by 2000. A similar but less pronounced pattern holds for black children but not for Hispanic children in this age range. These data suggest that redshirting was in vogue more among children from white families than of other groups in the late 1970s and 1980s.

Enrollment Below Modal Grade and High School Attrition

One of the most interesting and significant findings in the data reported by the Census Bureau is the negative relationship between enrollment below modal grade and the high school dropout rate for 15 to 17 year olds. The chart on this page illustrates what has happened to dropout rates as the rate at which 15 to 17 year olds are enrolled below modal grade has increased.

Between 1971 and 2000 the rate of enrollment below modal grade for the population of 15 to 17 year olds has increased from 22.5 to 30.2 percent. During this same period the annual dropout rate among 15 to 17 year olds has declined from 5.7 to 4.3 percent.

The relationship suggested in this chart is so striking that we examined the correlation between enrollment below modal grade and the dropout rate for 15 to 17 year olds over this 30 year period. The simple bivariate correlation was -.93. This is so striking as to suggest that one can predict with a high degree of accuracy the dropout rate for a cohort of 15 to 17 year olds simply by knowing the proportion of the cohort that is enrolled below modal grade.

We examined the correlations between enrollment below modal grade and dropout rates for 15 to 17 years olds by gender and race/ethnicity for the years of available data (usually 30). The results were as follows:

population	-.93
males	-.88
females	-.84
whites	-.93
blacks	-.38
Hispanics	-.46

These correlations suggest that the relationship between enrollment below modal grade and dropout rates is greatest for whites, men and women, and is weaker but still negative for blacks and Hispanics. For all major population groups: greater enrollment below modal grade tends to decrease the high school dropout rate.

In a future issue of OPPORTUNITY we will report our analyses of other Census Bureau data on high school dropout rates in more detail. Our analyses to date indicate that high school dropout rates have declined only in the tenth and eleventh grades, and have increased in the twelfth grade over the last several decades. This suggests that enrollment below modal grade may have its strongest impact on keeping students enrolled in high school longer and less on helping them to graduate from high school.

Are College Freshmen Getting Older?

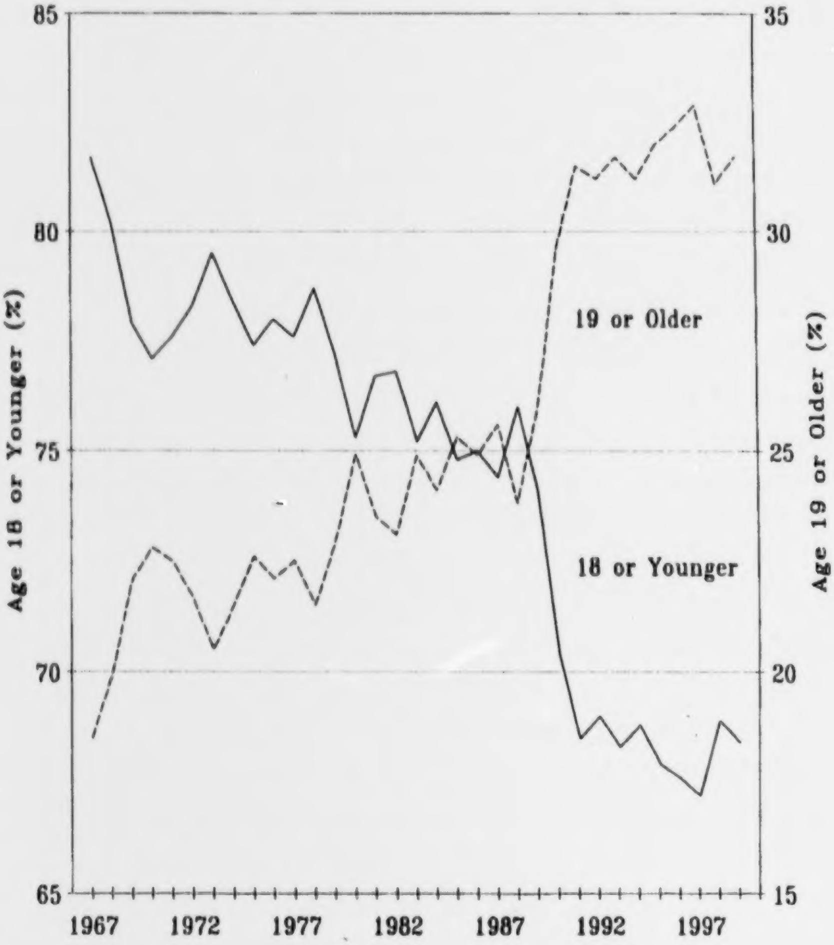
The answer is yes, sort of. Some and not others. And some are getting younger. Obviously this is a mixed picture with different groups moving in opposite directions. But on the whole college freshmen are getting a little bit older or more mature.

We have looked at this question both with Census Bureau data and with data reported from the national survey of American college freshmen conducted by the Higher Education Research Institute at UCLA. Both data sets tell similar stories.

The chart on this page shows the proportion of first-time, full-time college freshmen who were 18 or younger and who were 19 or older between 1967 and 1999. Over this time period the modal age of college freshmen remained 18. However, the proportion of college freshmen who were age 18 or less declined from 82 to 68 percent. Meanwhile the proportion of college freshmen who were 19 or more rose from 18 to 32 percent. The shift has occurred gradually except for a sudden shift in the late 1980s. Remember that 12 years earlier there was also a sudden increase in the proportion of white children ages 6 to 8 enrolled below modal grade. It is that changes in the late 1970s that produced the sudden shift toward older college freshmen that occurred around 1990.

We have also examined published Census Bureau data on the enrollment patterns of 18 year olds. Note that at this age any sort of enrollment remains largely voluntary (although some states have raised compulsory school attendance to age 18). However the modal grade of those who are age 18 at the time of the October Current Population Survey is and always has been the freshman year of college.

Age of First-Time, Full-Time College Freshmen
1967 to 1999



In 2000 40.8 percent of the 18 year olds still enrolled in school or college were enrolled below the freshman year of college. That is they were still enrolled in high school. In recent years this proportion has risen. In 1987 35.9 percent of 18 year olds were still enrolled in high school.

Of course the proportion of 18 year olds still enrolled in high school varies widely across population groups:

- *Males.* In October 2000 49.1 percent of enrolled 18 year old males were still enrolled in high school. This is up from 38.1 percent in 1987.
- *Females.* In October 2000 32.8 percent of enrolled 18 year old females were still enrolled in high school. This was down from 33.0 percent in 1989.
- *Whites.* In 2000 41.2 percent of enrolled 18 year old whites were still enrolled in high school. This was up from 35.2 percent in 1989.
- *Blacks.* In 2000 43.2 percent of 18 year old blacks who were still enrolled were still enrolled in high school. This was down from 58.1 percent in 1989.
- *Hispanics.* In 2000 53.5 percent of

18 year old Hispanics who were still enrolled were enrolled in high school. This was down from 57.7 percent in 1989.

- *Asian/Pacific Islanders.* In 2000 27.2 percent of 18 year old Asian or Pacific Islanders who were still enrolled in school were still enrolled in high school. This was far less than for any other population group. There are only three years of data available, in 1998 the rate stood at 25.4 percent.

As these data clearly show, at age 18 different population groups are enrolled at different places in the education pipeline. Males, blacks and Hispanics report the largest shares of enrollment still in high school. Females and Asians report the smallest shares. The share of males and whites still in high school has grown, while the share of blacks and Hispanics has declined in the last decade.

Conclusions

On the whole college freshmen are somewhat older than they have been in the past. Some may also be more mature and ready to take on the challenge of independent living and academic study.

What has lead to this slight aging of the freshman population is largely related to decisions made by parents and teachers at the kindergarten and first grade levels, twelve years before college. Around kindergarten and first grade, someone decided to redshirt some children. This redshirting decision appears to have been more often applied to boys than to girls. And over the last 30 years the redshirting of children appears to applied with decreasing frequency to black and Hispanic children. But the redshirting decision was applied with increasing frequency to white children, particularly between the late 1970s and about 1990.

One result is older and possibly more mature college freshmen. But another result not fully developed here appears to be improved persistence between the ninth and eleventh grades of high school. Overall the growth in enrollment below modal grade between the ages of 15 and 17 is highly negatively correlated with the high school dropout rate for this age group over the last 30 years.

Ultimately each student, at any age, is unique and different. Mass education especially at the elementary level should recognize and address the uniqueness of each student to develop that persons full potential. In this analysis we see evidence of that awareness insofar as different population groups enter and progress at different rates through the system.

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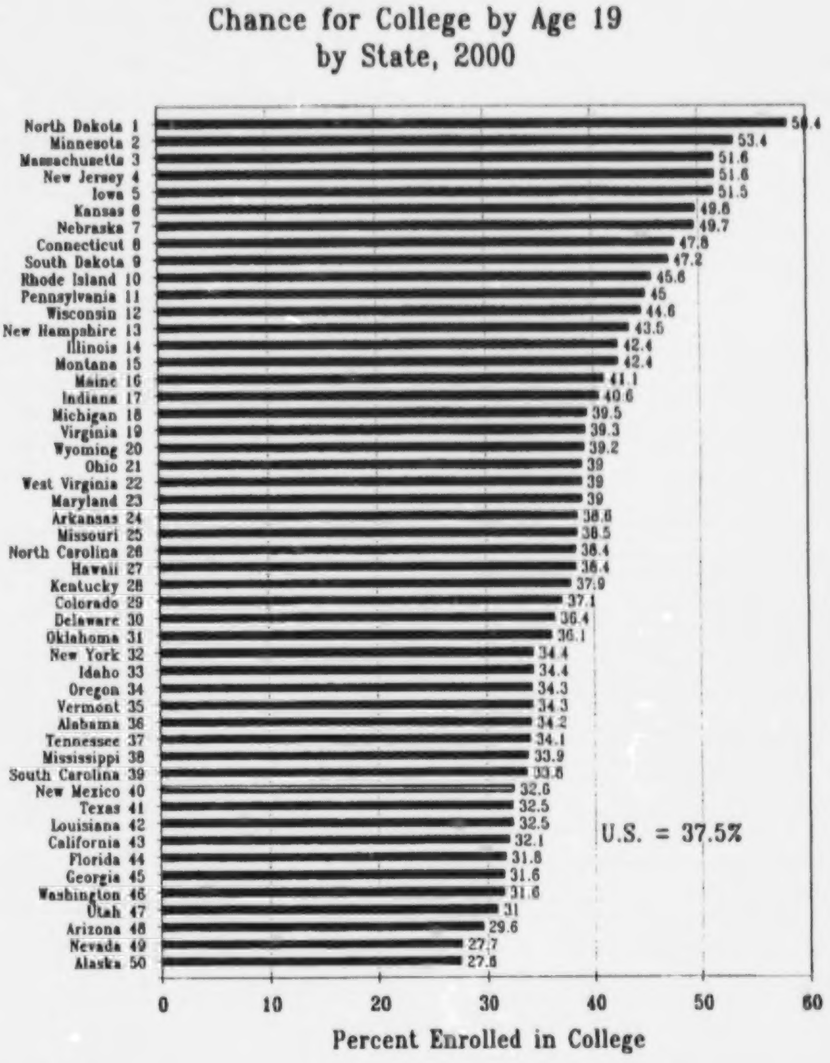
The Environmental Scanning Research Letter of Opportunity for Postsecondary Education

Number 123 www.postsecondary.org **September 2002**

Chance for College by Age 19 by State in 2000


Chance for College by Age 19 by State, 2000

In the fall of 2000, 37.5 percent of all 19 year olds were enrolled in college somewhere in the United States immediately after graduation from high school in 1999-2000. This college participation rate was down from 38.8 percent in 1998, down further from 39.7 percent in 1996, and down still more from the peak of 40.0 percent reached in 1994.

The college participation rate is the product of the high school graduation rate times the college continuation rate at which high school graduates enroll in college the fall following high school graduation. College participation is a two step process: first graduating from high school, then enrolling in college.

For the 2000 class of college freshmen, the participation rate of 37.5 percent is the product of the public high school graduation rate of 66.1 percent and the college continuation rate of 56.7 percent for those who graduated from high school.

The declining college participation rate for recent high school graduates follows directly from declining public high school graduation rates since 1983 and declining college continuation rates for recent high school graduates since 1996.

These national data are the sum of the experiences of what has happened across the 50 states in recent years. In 2000 the college participation rates for 19 year olds ranged from 27.6 percent in **Alaska** to 58.4 percent in **North Dakota**.

In this analysis **North Dakota**'s experience deserves special recognition and commendation. In 2000 North Dakota had both the highest public high school graduation rate of any state (84.1 percent, compared to 66.1 percent for the U.S.), and the highest college continuation rate for its high school graduates (69.4 percent, compared to 56.7 percent for all states). Moreover, North Dakota owns first place on the college participation rate for 19 year olds: North Dakota ranked first on this measure in 1992, 1994, 1996 and 1998--for the last decade of this survey. In every way we measure college participation across the states, North Dakota sets the height of the bar against which all other states should measure their own performance at graduating their students from high school and getting them enrolled in college immediately following high school graduation.

Our analysis of these data show clear trends and consistent patterns. While the data used in this analysis are completely new each year, states usually rank about the same year after year on the three components of the analysis--public high school graduation, college continuation for recent high school graduates, and chance for college by age 19. But these data also show some states moving forward even while most other states are moving backward.

These data and this analysis provide a powerful foundation for state discussions of the status of higher educational opportunity. This analysis does not provide answers.

But this analysis provides reference points for state discussions. If North Dakota can get 58.4 percent of its 19 year olds into college, then all other states should ask themselves why they fall short of North Dakota's achievements. Is the problem in the high school graduation rate? Is the problem in getting high school graduates into college? Why?

The Data and Analysis

This analysis is based on a very simple formula:

high school graduation rate
x college continuation rate
= college participation rate by age 19

This formula uses state-level data, and these state data are summed to produce data that describe national patterns and trends. For example, the public high school graduation rate of 66.1 percent times the college continuation rate of 56.7 percent for public and private high school graduates equals the college participation rate for 19 year olds of 37.5 percent. Exactly the same approach is applied in each state to state-level data.

All of the data used in this analysis are collected and reported by the National Center for Education Statistics. These data are gathered through the Common Core of Data collected on public K-12 education or the IPEDS data collection system for higher education. Most of these data are published in the *Digest of Education Statistics*, *ED Tabs* or special tabulations prepared for OPPORTUNITY.

High school graduation rate. This analysis is limited to public high school graduates because NCES does not report graded enrollment data for non-public secondary schools. The rate is calculated for each state and year by dividing the number of regular high school graduates (diplomas, not GEDs or certificates) by the enrollment in ninth grade four years earlier. Beginning in 2000 an adjustment was made for ungraded secondary enrollment in those states reporting such enrollments. These data are published in the annual *Digest of Education Statistics* and other NCES publications.

About 91 percent of all graduates are produced by public high schools. However, this varies widely by state and thus our calculation of public high school graduation rates probably does not reflect statewide high school

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Mission Statement

This research letter is founded on two fundamental beliefs. First, sound public social policy requires accurate, current, independent, and focused information on the human condition. Second, education is essential to the development of human potential and resources for both private and public benefit. Therefore, the purpose of this research letter is to inform those who formulate, fund, and administer public policy and programs about the condition of and influences that affect postsecondary education opportunity for all Americans.

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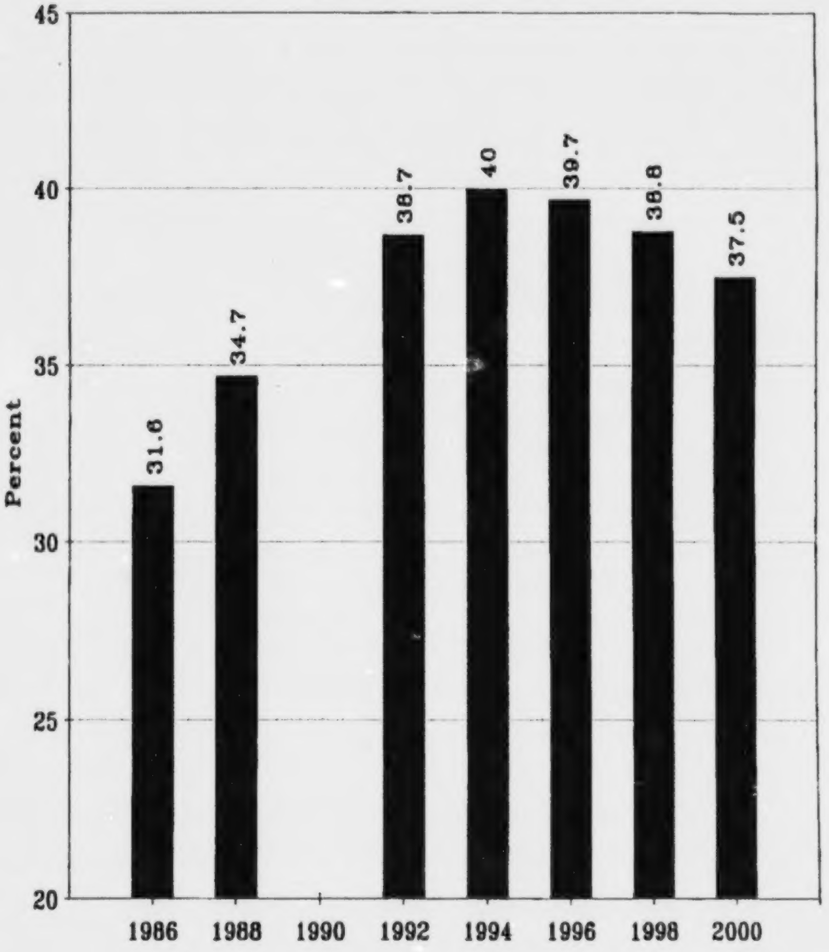
graduation rates in those states with large numbers of private high school graduates. The states with the largest proportion of private high school graduates in 2000 were as follows:

Hawaii	19.5%
Louisiana	18.5%
Vermont	16.0%
Delaware	15.9%
New York	15.7%
Massachusetts	15.4%
Maine	14.4%
Rhode Island	14.2%
Connecticut	14.0%
Tennessee	13.9%
New Hampshire	13.8%
Maryland	13.7%
Pennsylvania	13.6%
Mississippi	13.1%
Illinois	13.0%
New Jersey	13.0%

College continuation rate. The college continuation rate is the ratio of the number of fall 2000 college freshmen who had graduated from high school during the previous 12 months by state of residence divided by the number of public and private high school graduates of a state.

The college freshmen data by state of residence are collected in even-numbered years in the IPEDS fall enrollment survey administered by the National Center for Education Statistics. These data are unique and essential to this survey because each year about 20 percent of college freshmen leave their home state to enroll in college in another state. Only this survey captures the enrollment of these emigrants. We use these data because they enable us to tie college freshmen back to the state where they graduated from high school.

Chance for College by Age 19
by State, 1986 to 2000

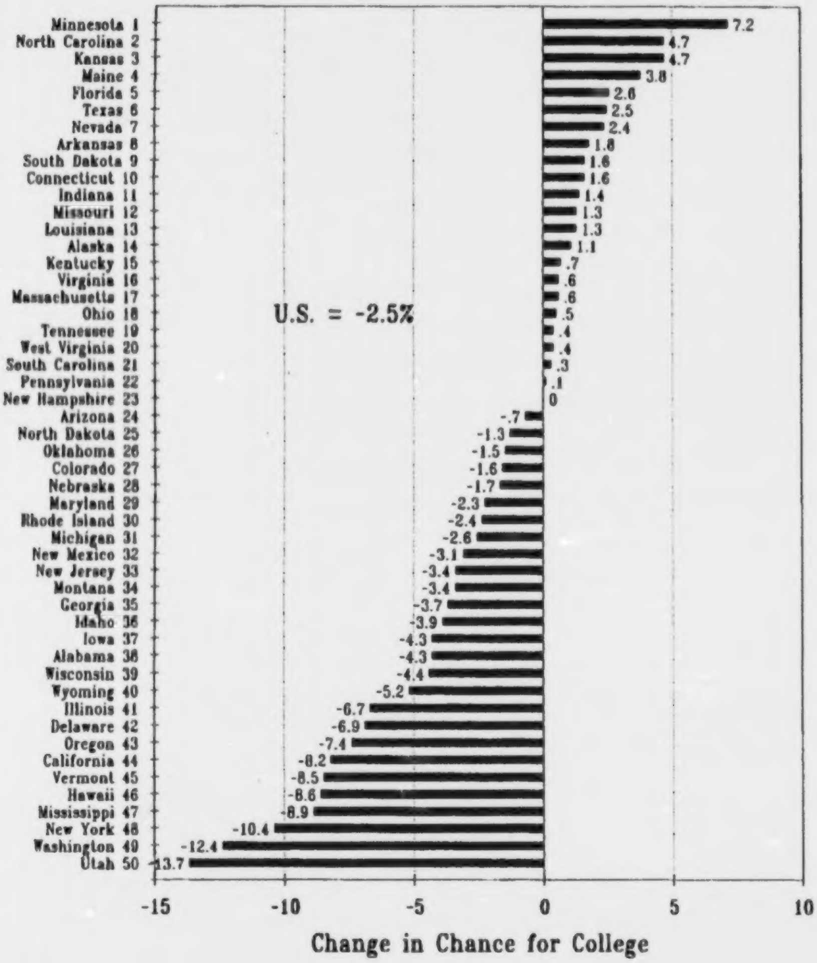


Data on public and private high school graduates by state are also reported by the National Center for Education Statistics. NCES collects and publishes the numbers of regular high school graduates from the Common Core survey of public K-12 education. The data on the number of private high school graduates by state are estimated by NCES from surveys done every other year. We have used the numbers of private high school graduates by state for the 1998-99 school year in our calculations. About 9.7 percent of all high school graduates come from private high schools, and this ranges from 19.5 percent in Hawaii to 0.6 percent in Wyoming.

Chance for college by age 19. This is simply the product of the public high school graduation rate and the college continuation rate for each state and year.

Note that some students will not enter college until some years after they graduate from high school. We do not use these data when they are reported largely because of the geographic mobility of young adults. Some students may move from one state to another state before entering college, and thus their state origins cannot be tied back to the state where they graduated from high school.

Change in Chance for College by Age 19
by State Between 1994 and 2000



Chance for College by Age 19

In 2000, 1.6 million freshmen were enrolled in college somewhere in the U.S. who had graduated from high school in 2000. About 37.5 percent of the age cohort was enrolled.

The chart on page 3 shows the college participation rate by 19 year olds since 1986. (NCES did not release data for 1990 due to incomplete state reporting that year.) Like other surveys (BLS, Census), the participation rate has declined for several years. The peak rate was reached in 1994 at 40.0 percent.

The chart on the first page of this issue of OPPORTUNITY shows the chance for college in 2000 by state. While the national rate was 37.5 percent, it ranged from 27.6 percent in **Alaska** to 58.4 percent in **North Dakota**.

States where college participation rates by age 19 are high are states that tend to have both high public high school graduation rates and high college continuation rates.

Besides **North Dakota**, other states where the chance for college by age 19 was better than 50 percent were **Minnesota** (53.4 percent), **Massachusetts** (51.6 percent), **New Jersey** (51.6 percent) and **Iowa** (51.5 percent). Other states with college participation rates above 45 percent were **Kansas, Nebraska, Connecticut, South Dakota, Rhode Island** and **Pennsylvania**. Most of these states have clustered in the top ten states in recent years--their success persists.

Besides **Alaska**, other states with college participation rates by 19 year olds below 30 percent were **Nevada** (27.7 percent) and **Arizona** (29.6 percent. Other states with rates below 35 percent were **Utah, Washington, Georgia, Florida, California, Louisiana, Texas, New Mexico, South Carolina, Mississippi, Tennessee, Alabama, Vermont, Oregon, Idaho** and **New York**.

Between 1994 and 2000 the chance for college by age 19 declined by 2.5 percentage points. But in 22 states the rate actually increased during this period, as shown in the chart on this page. The participation rate did not change in one state, and declined in the remaining 23 states.

Minnesota had the largest gain in college participation by 19 year olds between 1994 and 2000, by 7.2 percent. Other states with gains of 2 percent or more were **North Carolina** (+4.7 percent), **Kansas** (+4.7 percent), **Maine** (+3.8 percent), **Florida** (+2.6 percent), **Texas** (+2.5 percent) and **Nevada** (+2.4 percent).

But chance for college by age 19 declined in 27 states. The state with the largest loss was **Utah** (-13.7 percent). In fairness to Utah, their data are often skewed by the Mormon call to mission following high school.

But the same is not true in other states. In **Washington** the chance for college by age 19 declined by 12.4

percent. Other states with notably large declines between 1994 and 2000 were **New York** (-10.4 percent), **Mississippi** (-8.9 percent), **Hawaii** (-8.6 percent), **Vermont** (-8.5 percent), **California** (-8.2 percent), **Oregon** (-7.4 percent), **Delaware** (-6.9 percent) and **Illinois** (-6.7 percent).

Public High School Graduation Rate

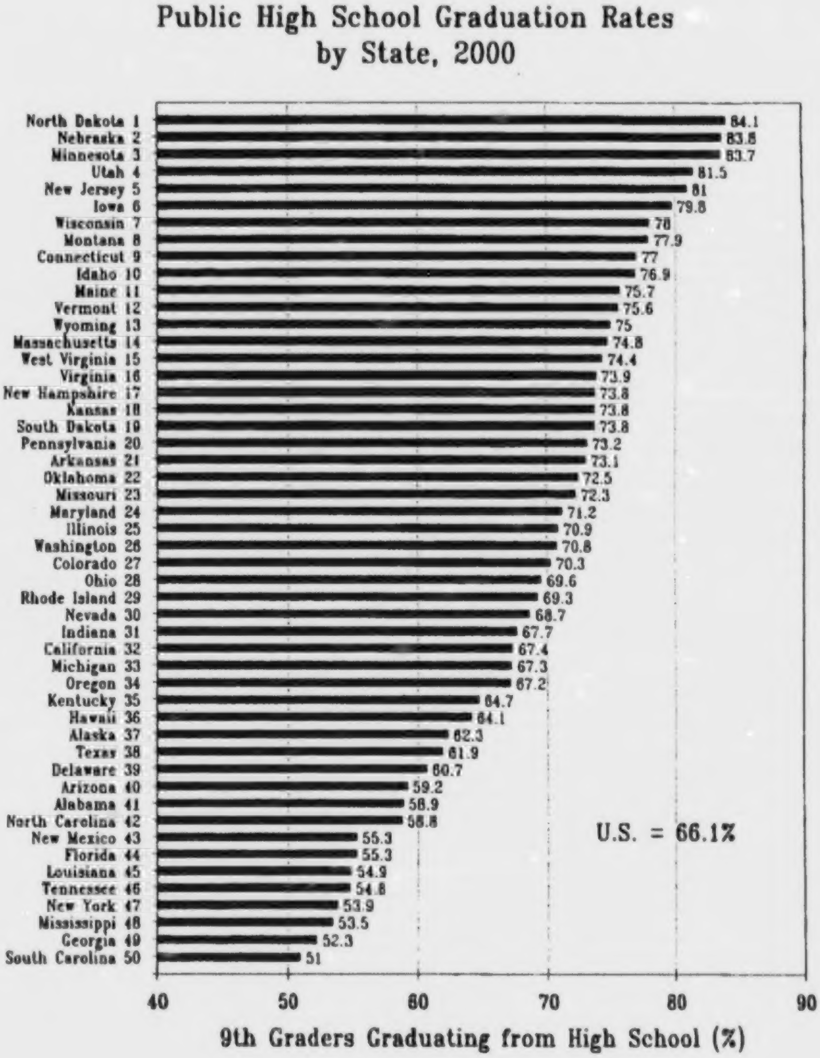
The college participation rate consists of the public high school graduation rate times the college continuation rate for public and private high school graduates, all by state and year. In 2000 the public high school graduation rate was 66.1 percent. Out of 3,848,175 ninth grade students in 1996, 2,543,407 became regular high school graduates in 1999-2000.

We have calculated the public high school graduation rate in the above manner with data back to 1981. As shown in the second chart on this page, the public high school graduation rate has declined since 1983. Between 1983 and 2000 the graduation rate declined from 73.9 to 67.1 percent, or by 6.8 points.

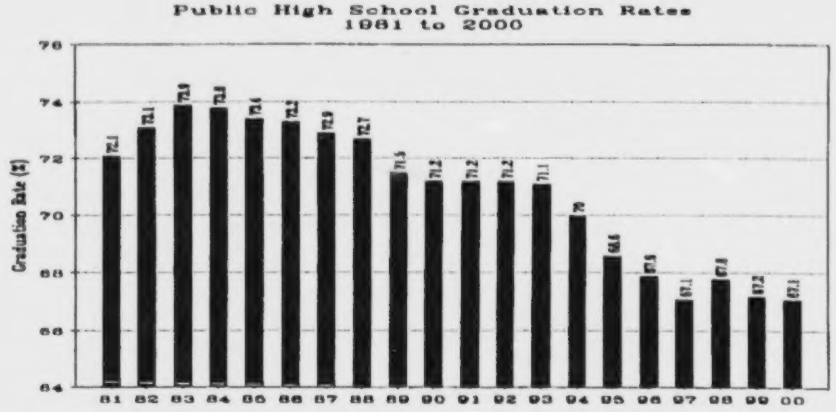
In 2000 the public high school graduation rate ranged from 51.0 percent in **South Carolina** to 84.1 percent in **North Dakota**.

In addition to South Carolina, the states with the lowest public high school graduation rates were **Georgia** (52.3 percent), **Mississippi** (53.5 percent), **New York** (53.9 percent), **Tennessee** (54.8 percent), **Louisiana** (54.9 percent), **Florida** (55.3 percent) and **New Mexico** (55.3 percent).

At the other end of the scale, in addition to North Dakota the states with notably high public high school graduation rates were **Nebraska** (83.8 percent), **Minnesota** (83.7 percent), **Utah** (81.5 percent), **New Jersey** (81.0 percent), Iowa (79.8 percent), **Wisconsin** (78.0 percent) and

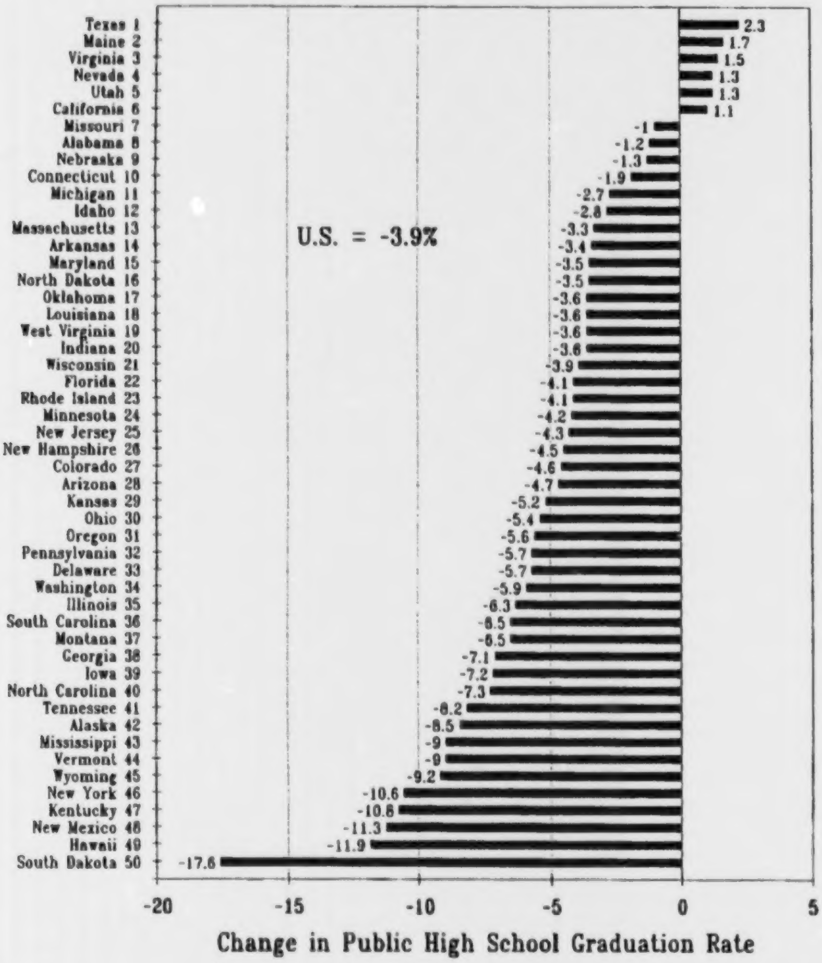


Public High School Graduation Rates by State, 2000



Public High School Graduation Rates 1981 to 2000

Change in Public High School Graduation Rates by State Between 1994 and 2000



Montana (77.9 percent).

Between 1994 when chances for college peaked at 40.0 percent and 2000 when they had dipped to 37.5 percent, the public high school graduation rate also declined. While the college participation rate declined by 2.5 percentage points, the public high school graduation rate declined by 3.9 percentage points.

Of course the public high school graduation rate did not decline in all states. Between 1994 and 2000 this rate actually increased in six states. These states were **Texas** (+2.3 percent), **Maine** (+1.7 percent), **Virginia** (+1.5 percent), **Nevada** (+1.3 percent), **Utah** (+1.3 percent) and **California** (+1.1 percent.

The public high school graduation rate declined between 1994 and 2000 in the remaining 44 states. By far the largest loss was in **South Dakota** where the public high school graduation rates declined by 17.6 percentage points, from 91.4 to 73.8 percent.

Many other states also had very large drops in their public high school graduation rates during this six year period. Among the largest declines were in **Hawaii** (-11.9 percent), **New Mexico** (-11.3 percent), **Kentucky** (-10.8 percent), **New York** (-10.6 percent), **Wyoming** (-9.2 percent), **Vermont** (-9.0 percent), **Mississippi** (-9.0 percent), **Alaska** (-8.5 percent), **Tennessee** (-8.2 percent), **North Carolina** (7.3 percent), **Iowa** (-7.2 percent) and **Georgia** (-7.1 percent).

OPPORTUNITY has reported at length about the deterioration in high school graduation rates over the last two decades. Our first report "Tracking High School Graduation" in 1999 disaggregated high school "completion" into its several components: diploma, GED, certificates, etc. Subsequent reports have expanded on these themes. Much of the data used in our analyses has also been posted to our website on the High School Graduation page.

College Continuation Rate

For those who graduate from high schools in a state and enroll in college the following fall, we calculate the college continuation rate.

The numerator of this ratio is the number of college freshmen in the fall of 2000 who had graduated from high school during the previous academic year. About 20 percent of these college freshmen cross state lines to attend colleges in other states. Thus, the residence and migration data collected in the fall IPEDS enrollment survey in even numbered years is used to gather the data on freshmen attending college anywhere in the U.S. from each state. These data have been collected in even numbered years since 1986 by NCES, although the 1990 survey results were not released due to incomplete reporting by institutions.

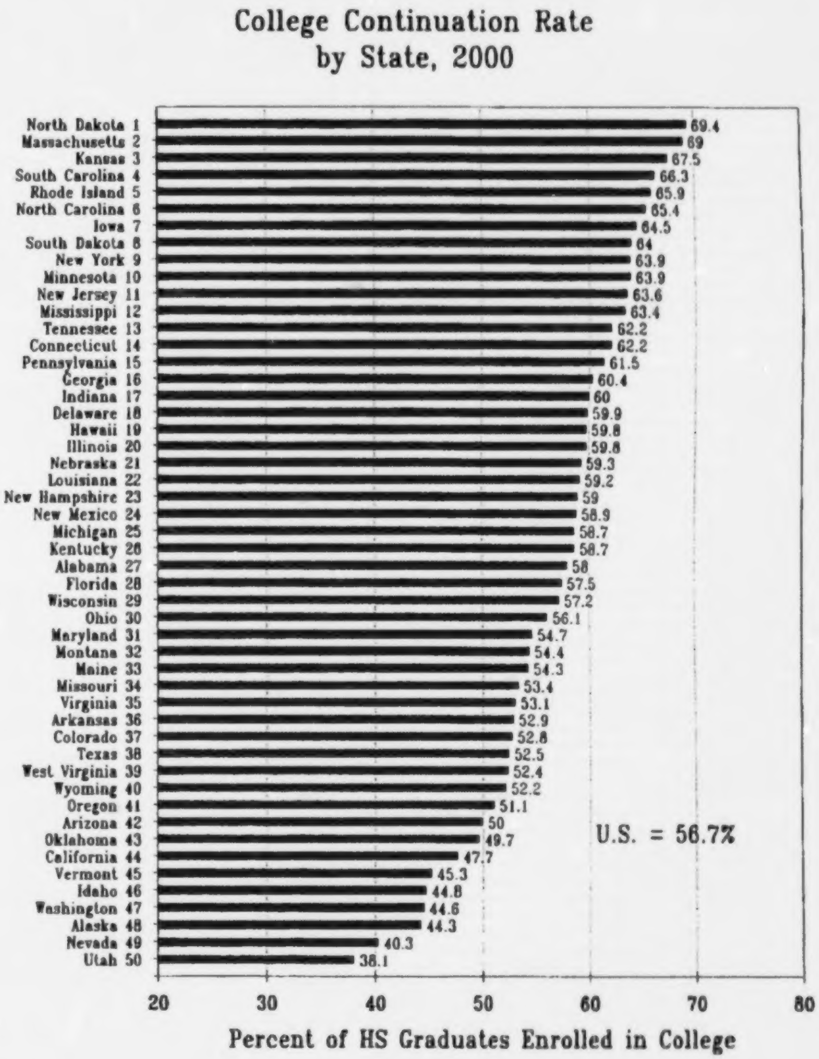
The denominator of this ratio is the number of regular public and private high school graduates each year from each state. By regular we mean high school diploma recipients, not including GEDS, certificates of completion, or other alternative means of completing high school without actual graduation. The data on public high school graduates by state is gather by NCES in its Common Core of Data K-12 survey and is published in the annual *Digest of Education Statistics*. The data on private high school graduates are estimated by NCES and published separately on reports on private elementary and secondary schools.

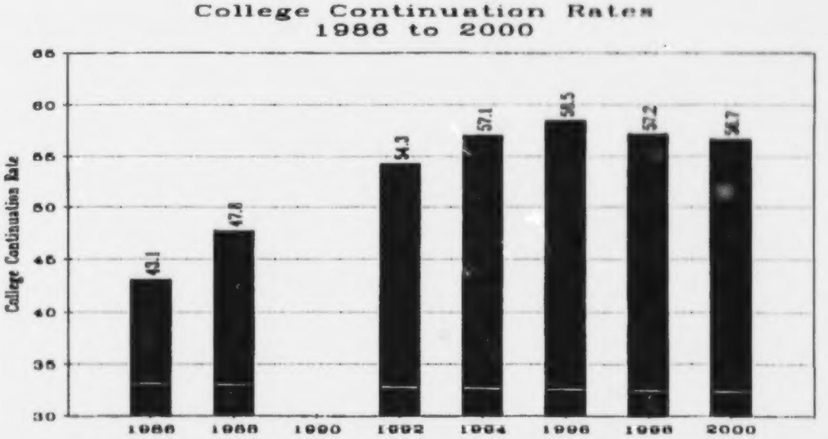
In October 2000 the national college continuation rate was 56.7 percent. That is out of 2,815,200 regular public and private high school graduates in 1999-2000, 1,596,243 were enrolled in a public or private 2-year or 4-year college somewhere in the United States. As shown in the second chart on this page, the college continuation rate peaked at 58.5 percent in 1996 and has declined by 1.8 percentage points since then.

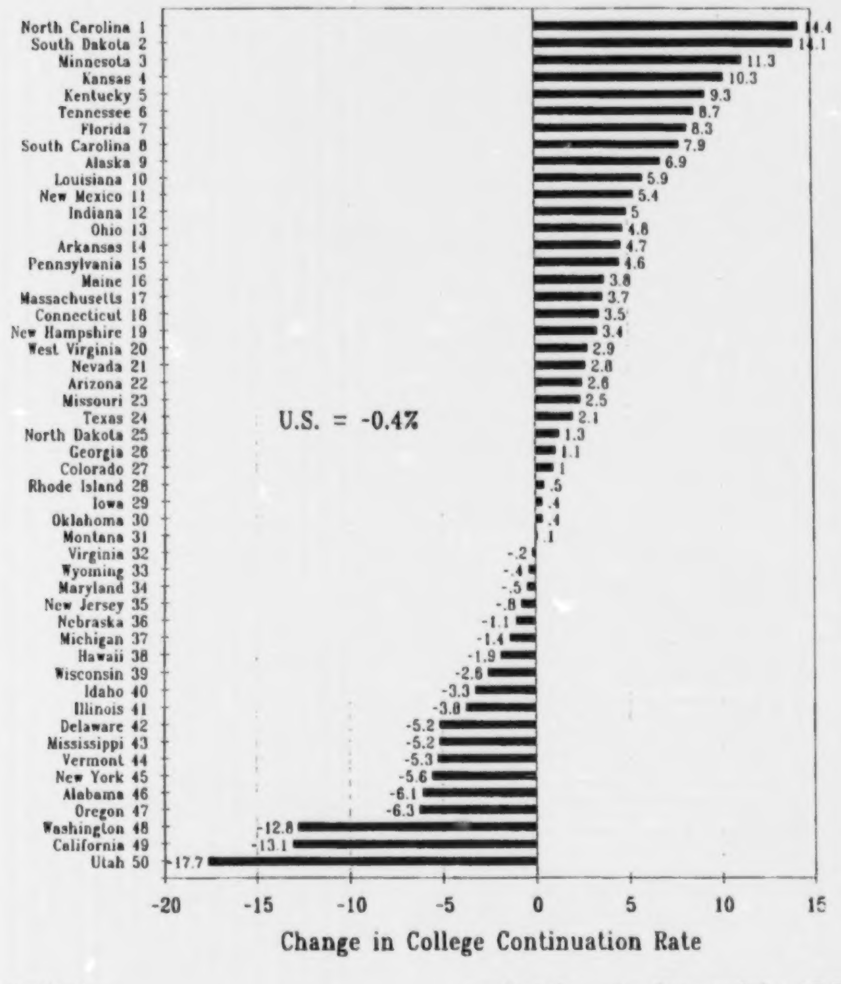
The first chart on this page shows the college continuation rate in 2000 by state. The rates ranged from 38.1 percent in Utah to 69.4 percent in **North Dakota**.

Utah remains a special case. While the data are probably accurate, the Mormon call to mission for recent high school graduates delays their entry into higher education.

But there are other western states with very low college continuation rates as well. Besides Utah, **Nevada** (40.3 percent), **Alaska** (44.3 percent), **Washington** (44.6 percent) and **Idaho** (44.8 percent) all rank in the bottom five on college continuation rates immediately after high school. And **California, Arizona, Oregon** and **Wyoming** all rank in the bottom eleven states. Only **Montana** and **New Mexico** rank higher and they are still close to the bottom half of the







Change in College Continuation Rates by Age 19 by State Between 1994 and 2000

distribution.

At the high end of this scale, besides North Dakota, are **Massachusetts** 69.0 percent), **Kansas** (67.5 percent), **South Carolina** (66.3 percent), **Rhode Island** (65.9 percent) and **North Carolina** (65.4 percent).

Over the last six years, between 1994 and 2000, the college continuation rate declined from 57.1 to 56.7 percent, or by -0.4 percent. Of course across the 50 states this small change masks much larger changes across the 50 states. Between 1994 the college continuation rate decreased by 17.7 percentage points in **Utah** while it increased by 14.4 percentage points in **North Carolina**.

(Utah remains a special case due to the Mormon church call for two years of mission service after high school for men.)

The largest declines in the college continuation rate between 1994 and 2000 occurred in **California** (-13.1 percent) and **Washington** (-12.8 percent)--both western states. Other states with large declines in their college continuation rates between 1994 and 2000 were: **Oregon** (-6.3 percent), **Alabama** (-6.1 percent), **New York** (-5.6 percent), **Vermont** (-5.3 percent), **Mississippi** (-5.2 percent) and **Delaware** (-5.2 percent). Additionally ten other states experienced smaller declines in their college continuation rates during this period.

But in other states the college continuation rate increased, often substantially, between 1994 and 2000. Besides North Carolina, the states with the largest gains in college continuation rates were **South Dakota** (+14.1 percent), **Minnesota** (+11.3 percent), **Kansas** (+10.3 percent), **Kentucky** (+9.3 percent), **Tennessee** (+8.7 percent), **Florida** (+8.3 percent) and **South Carolina** (+7.9 percent. Additionally, 22 other states saw smaller increases in the rate at which their high school graduates enrolled in college somewhere in the U.S. between 1994 and 2000.

Grooming Some High School Students for College

For any state to rank high among the states on college participation by age 19 the state must have *both* high high school graduation rates *and* high college continuation rates. **North Dakota** ranks first among the states on its college participation rate by age 19 *both* because it ranks first on its public high school graduation rate *and* because it ranks first among the states in the rate at which its high school graduates enroll in college. Some states rank high on either public high school graduation rates or on college continuation rates, but not both.

Groomers. One groups of states--we will call them the *groomers*--have high college continuation rates but low high school graduation rates. These states appear to be primarily concerned with high school students who are likely to attend college and care little for those not apparently destined to college.

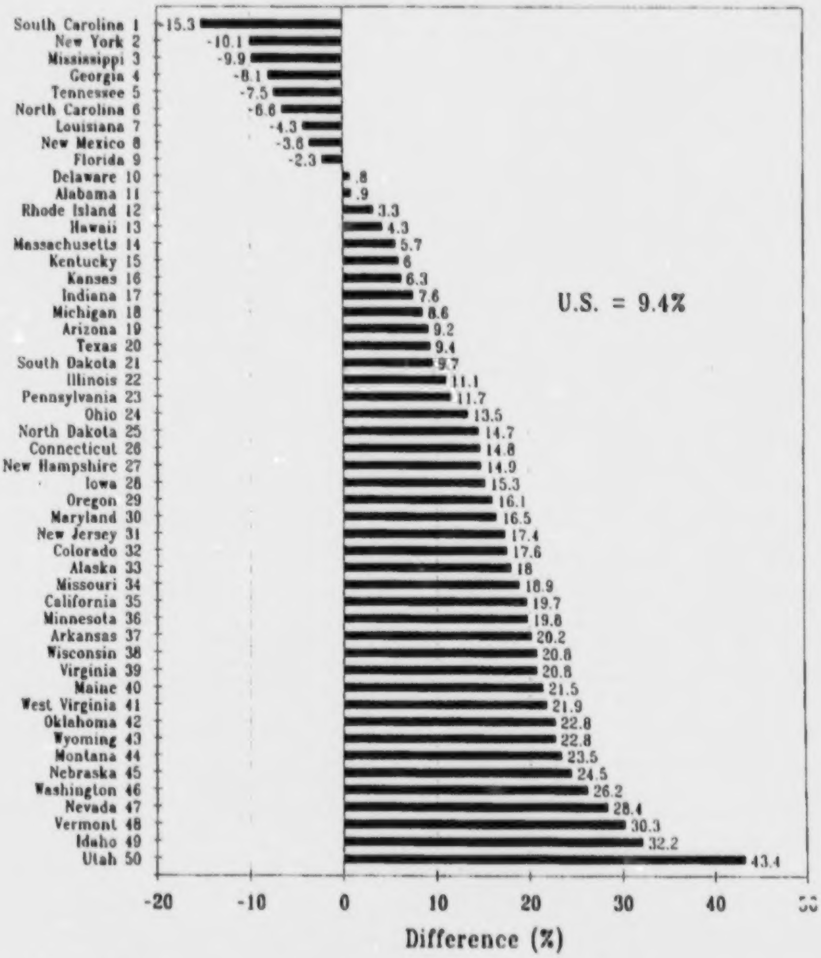
Foremost among these groomer states is **South Carolina**. In 2000, South Carolina ranked fourth among the states in the rate at which its public and private high school graduates enrolled in college by fall. However, South Carolina ranked fiftieth among the states in its public high school graduation rate--dead last among the states. Only 51 percent of the students enrolled in ninth grade received regular high school diplomas--the other half didn't.

These rankings suggest that South Carolina does a very poor job of graduating its students from high school, but that those it does graduate go on to college at exceptionally high rates. South Carolina appears to be mainly interested in those secondary students who appear to be destined for college. For that reason South Carolina ranks 39th among the states on its college participation rate by age 19.

Other states that fall into the "groomer" category include **New York, Mississippi, Georgia, Tennessee, North Carolina, Louisiana, New Mexico and Florida**, in about that order. These states do a good job of getting their high school graduates into college, but a poor job of graduating their students from public high schools.

Under performers. At the other end of the spectrum are those states that graduate a relatively large share of their high school students, but fail to send a reasonable share of these high school graduates on to college the following fall. While **Utah** stands out on this measure, the role of religious missions for boys immediately after high school skews the data for this state and leads to erroneous conclusions about higher education participation in Utah.

Difference between College Continuation Rate and Public High School Graduation Rate by State, 2000



Rather, a long list of states under perform on this measure. While they have relatively high public high school graduation rates, that have relatively low college continuation rates. Foremost among these states are **Idaho, Vermont, Nevada, Washington, Nebraska, Montana, Wyoming, Oklahoma, West Virginia, Maine, Virginia, Wisconsin** and **Arkansas**. The relatively high public high school graduation rates in these states suggest that students are interested, motivated and engaged through high school graduation. But after high school too many students lose interest in continuing their educations. These states should be exploring the untapped student demand for higher education in their states.

Overall these data tell a rather sad story about declining high school graduation rates and declining college continuation rates. Combined they indicate declining college participation by 19 year olds in collegiate education. **North Dakota** remains a beacon for other states to emulate. Because it has been done, it can be done, and North Dakota is proof.

Public High School Graduation Rates, College Continuation Rates, and Chance for College by Age 19 by State
1986 to 2000

	Public High School Graduation Rate							*College Continuation Rate*							*Chance for College by Age 19*						
State	1986	1988	1992	1994	1996	1998	2000	1986	1988	1992	1994	1996	1998	2000	1986	1988	1992	1994	1996	1998	2000
Alabama	66.2%	74.1%	66.1%	60.1%	57.8%	59.8%	58.9%	34.1%	47.7%	56.5%	64.1%	59.8%	58.0%	58.0%	22.6%	35.4%	37.3%	38.5%	34.6%	34.7%	34.2%
Alaska	79.3%	69.8%	74.1%	70.8%	64.7%	65.0%	62.3%	1.3%	26.7%	39.5%	37.4%	40.5%	37.2%	44.3%	1.0%	18.6%	29.3%	26.5%	26.2%	24.2%	27.6%
Arizona	68.4%	66.6%	72.7%	63.8%	58.4%	61.5%	59.2%	38.6%	55.6%	45.8%	47.3%	47.9%	45.0%	50.0%	26.4%	37.0%	33.3%	30.2%	27.9%	27.7%	29.6%
Arkansas	78.2%	78.7%	78.3%	76.4%	74.9%	73.2%	73.1%	19.7%	41.4%	45.7%	48.2%	51.5%	53.7%	52.9%	15.4%	32.6%	35.7%	36.8%	38.6%	39.3%	38.6%
California	69.0%	68.5%	68.6%	66.3%	65.3%	67.3%	67.4%	56.2%	58.3%	51.4%	60.8%	66.4%	51.3%	47.7%	38.8%	40.0%	35.2%	40.3%	43.4%	34.5%	32.1%
Colorado	76.2%	76.4%	75.1%	74.9%	71.9%	71.5%	70.3%	0.7%	44.3%	51.2%	51.7%	52.7%	54.3%	52.8%	0.6%	33.9%	38.5%	38.8%	37.9%	38.8%	37.1%
Connecticut	87.1%	82.2%	80.4%	78.9%	73.5%	73.4%	77.0%	23.2%	49.2%	57.1%	58.6%	59.7%	64.9%	62.2%	20.2%	40.4%	45.9%	46.2%	43.9%	47.6%	47.8%
Delaware	70.7%	69.8%	69.6%	66.5%	65.8%	68.0%	60.7%	31.1%	43.2%	57.7%	65.1%	66.5%	62.2%	59.9%	22.0%	30.2%	40.1%	43.2%	43.8%	42.3%	36.4%
Florida	66.8%	63.0%	65.0%	59.3%	57.8%	57.0%	55.2%	36.9%	42.7%	45.4%	49.2%	50.3%	49.5%	57.5%	24.6%	26.9%	29.5%	29.2%	29.1%	28.2%	31.8%
Georgia	64.9%	63.4%	63.7%	59.4%	55.0%	51.3%	52.3%	35.1%	47.7%	55.1%	59.4%	55.6%	60.4%	60.4%	22.8%	30.2%	35.1%	35.3%	30.6%	30.9%	31.6%
Hawaii	83.2%	81.7%	78.1%	76.1%	74.8%	62.0%	64.1%	18.0%	45.8%	56.1%	61.7%	62.0%	59.6%	59.8%	15.0%	37.4%	43.8%	46.9%	46.4%	37.0%	38.4%
Idaho	79.9%	76.8%	81.1%	79.7%	79.6%	78.5%	76.9%	36.8%	32.3%	49.0%	48.0%	46.2%	47.3%	44.8%	29.4%	24.8%	39.7%	38.3%	36.7%	37.1%	34.4%
Illinois	77.9%	78.2%	78.6%	77.2%	76.2%	76.9%	70.9%	32.1%	53.1%	62.1%	63.6%	63.9%	62.7%	59.8%	25.0%	41.5%	48.8%	49.1%	48.7%	48.3%	42.4%
Indiana	76.2%	78.1%	76.0%	71.3%	70.1%	70.8%	67.7%	33.0%	44.8%	50.5%	55.0%	57.9%	60.5%	60.0%	25.1%	35.0%	38.4%	39.2%	40.6%	42.9%	40.6%
Iowa	87.3%	86.9%	87.6%	87.0%	85.3%	84.2%	79.8%	42.7%	57.5%	61.8%	64.1%	63.8%	63.2%	64.5%	37.2%	50.0%	54.1%	55.7%	54.4%	53.2%	51.5%
Kansas	84.6%	82.7%	80.5%	79.0%	75.8%	73.3%	73.8%	42.3%	52.8%	57.3%	57.2%	61.6%	60.9%	67.5%	35.8%	43.6%	46.2%	45.2%	46.7%	44.6%	49.8%
Kentucky	68.9%	69.1%	69.8%	75.5%	68.1%	66.8%	64.7%	34.9%	52.8%	48.9%	49.4%	52.9%	54.7%	58.7%	24.1%	36.5%	34.2%	37.3%	36.0%	36.6%	37.9%
Louisiana	61.7%	61.6%	52.9%	58.5%	57.9%	55.4%	54.9%	38.6%	41.3%	54.2%	53.4%	54.2%	63.0%	59.2%	23.8%	25.4%	28.7%	31.2%	31.4%	34.9%	32.5%
Maine	76.1%	77.7%	81.1%	74.0%	72.4%	78.5%	75.7%	10.7%	22.2%	48.6%	50.4%	53.9%	55.3%	54.3%	8.2%	17.3%	39.4%	37.3%	39.1%	43.4%	41.1%
Maryland	78.0%	76.1%	76.1%	74.7%	73.9%	70.6%	71.2%	26.1%	46.4%	55.9%	55.2%	58.2%	57.6%	54.7%	20.3%	35.3%	42.6%	41.2%	43.0%	40.7%	39.0%
Massachusetts	74.7%	74.3%	79.1%	78.0%	75.8%	75.6%	74.8%	37.6%	51.3%	59.0%	65.4%	70.8%	71.5%	69.0%	28.1%	38.2%	46.7%	51.0%	53.7%	54.1%	51.6%
Michigan	74.3%	72.9%	70.9%	70.0%	69.6%	72.2%	67.3%	39.1%	48.8%	57.5%	60.1%	58.6%	57.9%	58.7%	29.0%	35.6%	40.8%	42.1%	40.8%	41.9%	39.5%
Minnesota	88.7%	89.5%	89.2%	87.9%	85.3%	83.6%	83.7%	32.4%	49.6%	53.6%	52.6%	53.9%	49.1%	63.9%	28.8%	44.4%	47.8%	46.2%	45.9%	41.0%	53.4%
Mississippi	63.6%	67.5%	62.1%	62.4%	56.8%	56.4%	53.5%	37.3%	48.2%	61.9%	68.6%	63.5%	59.7%	63.4%	23.7%	32.6%	38.4%	42.8%	36.0%	33.7%	33.9%
Missouri	76.6%	75.5%	73.2%	73.2%	71.2%	71.7%	72.2%	35.7%	43.9%	48.7%	50.8%	50.2%	54.7%	53.4%	27.3%	33.1%	35.7%	37.2%	35.8%	39.2%	38.5%
Montana	86.3%	84.7%	85.5%	84.4%	82.8%	80.1%	77.9%	18.1%	33.1%	50.8%	54.2%	55.5%	57.7%	54.4%	15.6%	28.0%	43.4%	45.8%	46.0%	46.2%	42.4%
Nebraska	87.7%	85.9%	87.2%	85.1%	82.9%	84.7%	83.8%	45.9%	58.7%	63.3%	60.4%	61.7%	61.0%	59.3%	40.2%	50.4%	55.2%	51.4%	51.2%	51.7%	49.7%
Nevada	79.5%	73.0%	70.7%	67.4%	65.4%	69.9%	68.7%	16.1%	42.3%	32.8%	37.6%	38.7%	37.1%	40.3%	12.8%	30.8%	23.2%	25.3%	25.3%	25.9%	27.7%
New Hampshire	74.5%	77.2%	78.1%	78.3%	74.9%	74.5%	73.8%	22.6%	39.6%	56.2%	55.6%	57.4%	59.4%	59.0%	16.9%	30.6%	43.9%	43.5%	43.0%	44.2%	43.5%
New Jersey	79.4%	80.4%	84.1%	85.3%	82.8%	78.2%	81.0%	17.5%	41.6%	60.9%	64.4%	65.4%	68.8%	63.6%	13.9%	33.4%	51.2%	54.9%	54.1%	53.8%	51.6%
New Mexico	73.0%	73.4%	67.8%	66.6%	63.4%	57.9%	55.3%	30.9%	41.7%	50.1%	53.5%	55.7%	64.5%	58.9%	22.6%	30.6%	34.0%	35.6%	35.3%	37.3%	32.6%
New York	67.6%	66.3%	66.6%	64.5%	61.4%	61.0%	53.9%	39.8%	45.2%	66.9%	69.5%	71.0%	71.3%	63.9%	26.9%	30.0%	44.5%	44.8%	43.6%	43.5%	34.4%
North Carolina	71.0%	68.0%	68.5%	66.0%	62.4%	60.8%	58.7%	48.3%	53.1%	50.0%	51.0%	53.8%	64.5%	65.4%	34.3%	36.1%	34.3%	33.7%	33.5%	39.2%	38.4%
North Dakota	88.6%	88.3%	87.5%	87.7%	89.0%	85.4%	84.1%	49.9%	56.3%	65.8%	68.2%	71.0%	69.5%	69.4%	44.2%	49.7%	57.5%	59.7%	63.2%	59.4%	58.4%
Ohio	79.3%	76.4%	72.4%	75.0%	70.6%	73.2%	69.6%	28.7%	41.4%	50.3%	51.4%	54.5%	55.1%	56.1%	22.8%	31.6%	36.4%	38.5%	38.5%	40.3%	39.0%
Oklahoma	75.9%	74.0%	76.3%	76.1%	73.0%	72.1%	72.5%	39.1%	32.4%	50.6%	49.3%	47.6%	50.7%	49.7%	29.7%	24.0%	38.6%	37.5%	34.7%	36.6%	36.1%
Oregon	71.7%	71.7%	73.5%	72.7%	66.6%	67.2%	67.2%	39.0%	52.6%	54.3%	57.4%	52.6%	47.2%	51.1%	28.0%	37.7%	39.9%	41.8%	35.0%	31.7%	34.3%
Pennsylvania	81.0%	81.1%	81.5%	78.9%	76.3%	75.3%	73.2%	31.7%	43.1%	53.8%	56.9%	56.7%	62.3%	61.5%	25.7%	35.0%	43.8%	44.9%	43.2%	46.9%	45.0%
Rhode Island	73.1%	71.9%	76.8%	73.4%	71.4%	70.0%	69.3%	25.3%	44.1%	61.8%	65.4%	65.1%	67.8%	65.9%	18.5%	31.7%	47.5%	48.0%	46.4%	47.5%	45.6%
South Carolina	65.3%	64.8%	58.1%	57.5%	54.4%	53.2%	51.0%	34.9%	47.1%	43.4%	58.4%	59.1%	61.2%	66.3%	22.8%	30.5%	25.2%	33.6%	32.1%	32.6%	33.8%
South Dakota	84.7%	86.7%	85.3%	91.4%	86.6%	75.7%	73.8%	35.5%	41.2%	51.3%	49.9%	52.0%	63.9%	64.0%	30.1%	35.8%	43.8%	45.6%	45.0%	48.4%	47.2%
Tennessee	66.3%	68.6%	68.7%	63.0%	63.4%	60.0%	54.8%	34.0%	46.2%	46.7%	53.5%	53.8%	55.6%	62.2%	22.5%	31.7%	32.1%	33.7%	34.1%	33.3%	34.1%
Texas	66.0%	64.9%	56.0%	59.6%	58.4%	61.0%	61.9%	35.2%	50.5%	52.5%	50.4%	54.1%	51.2%	52.5%	23.2%	32.8%	29.4%	30.1%	31.6%	31.3%	32.5%
Utah	81.6%	81.3%	81.1%	80.2%	78.4%	82.3%	81.5%	16.3%	27.0%	51.7%	55.8%	50.8%	41.7%	38.1%	13.3%	21.9%	41.9%	44.8%	39.8%	34.3%	31.0%
Vermont	80.9%	81.2%	82.4%	84.6%	89.9%	80.9%	75.6%	25.3%	51.5%	55.8%	50.6%	47.2%	49.8%	45.3%	20.5%	41.9%	45.9%	42.8%	42.4%	40.3%	34.3%
Virginia	75.7%	74.6%	74.0%	72.4%	75.5%	73.2%	73.9%	31.6%	48.0%	51.7%	53.3%	54.5%	56.1%	53.1%	24.0%	35.8%	38.3%	38.6%	41.1%	41.1%	39.3%
Washington	74.8%	78.0%	76.1%	76.7%	72.2%	70.9%	70.8%	41.3%	48.6%	58.4%	57.4%	58.1%	52.2%	44.6%	30.9%	37.9%	44.5%	44.0%	42.0%	37.0%	31.6%
West Virginia	75.6%	76.8%	77.0%	78.0%	76.1%	75.3%	74.4%	33.0%	41.5%	49.1%	49.5%	50.1%	53.4%	52.4%	25.0%	31.9%	37.9%	38.6%	38.1%	40.2%	39.0%
Wisconsin	84.6%	83.3%	82.2%	81.9%	80.4%	78.8%	78.0%	41.9%	52.4%	60.5%	59.8%	57.7%	55.4%	57.2%	35.4%	43.6%	49.7%	49.0%	46.4%	43.7%	44.6%
Wyoming	77.2%	77.5%	83.8%	84.3%	77.8%	77.4%	75.0%	35.7%	46.9%	46.2%	52.6%	52.8%	54.1%	52.2%	27.6%	36.4%	38.7%	44.3%	41.1%	41.9%	39.2%
Total	73.4%	72.7%	71.2%	70.0%	67.9%	67.8%	66.1%	35.7%	47.8%	[illegible]	57.1%	58.5%	57.3%	56.7%	26.2%	34.7%	38.7%	40.0%	39.7%	38.8%	37.5%

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Labor Force Status of College Students 16 to 24 Years Old 1970 to 2001

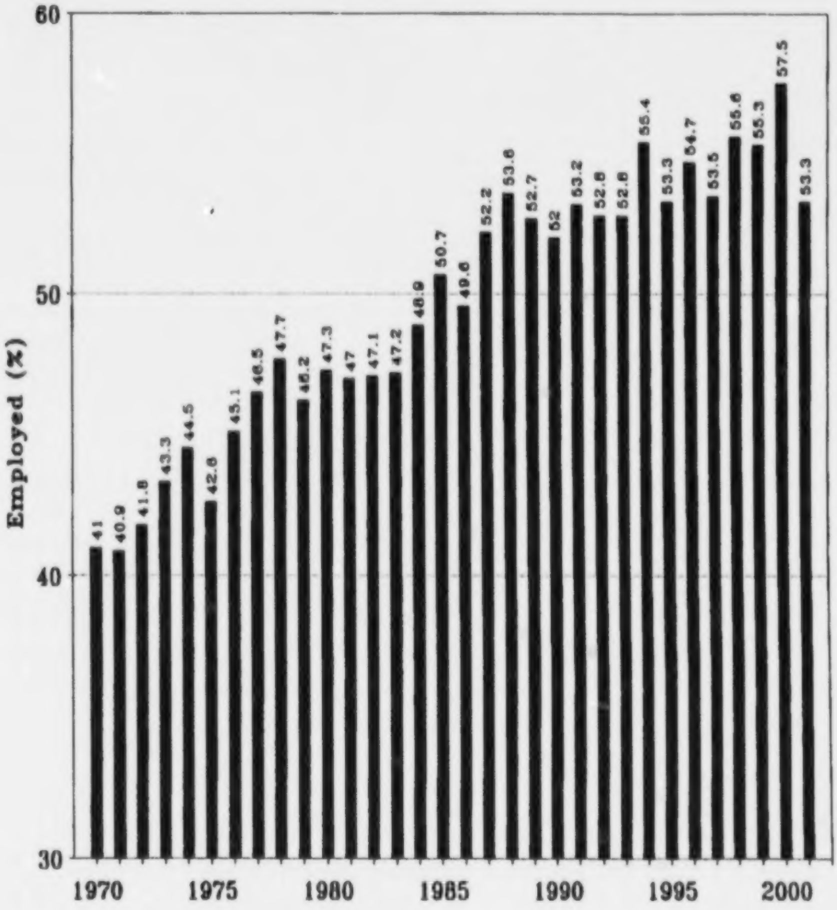
In October of 2001 out of 9,958,000 college students between the ages of 16 and 24 years, 5,311,000 or 53.3 percent were also employed. An additional 410,000 college students were looking for work, or 7.2 percent of all college students in this age range who were in the labor force (either working or looking for work).

Over the last three decades the proportion of 16 to 24 year old college students who were also employed has risen, from 41.0 percent in 1970 to a peak of 57.5 percent in 2000. Over half of all college students in this age range have also been employed since 1985.

October of 2001 was the eighth month of the economic recession that began in March 2001. It was also a month after the terrorist attacks of 9/11. Thus it is not surprising that the proportion of college students who were working in 2001 was down from year earlier numbers. Between October 2000 and October 2001, the number of college students increased by 365,000, but the number who were also employed decreased by 202,000. The number who were looking for work but not employed increased by 112,000 and the number who were not in the labor force (neither working nor looking for work) increased by 456,000.

In this analysis we examine data collected by the Census Bureau in the October Current Population Survey between 1970 and 2001. These data are analyzed and reported first by the Bureau of Labor Statistics in news releases the following spring, and later in other Census Bureau and Bureau of Labor Statistics reports. These data are especially valuable because they are the first release of federal data on student employment and they are largely focused on undergraduate college students.

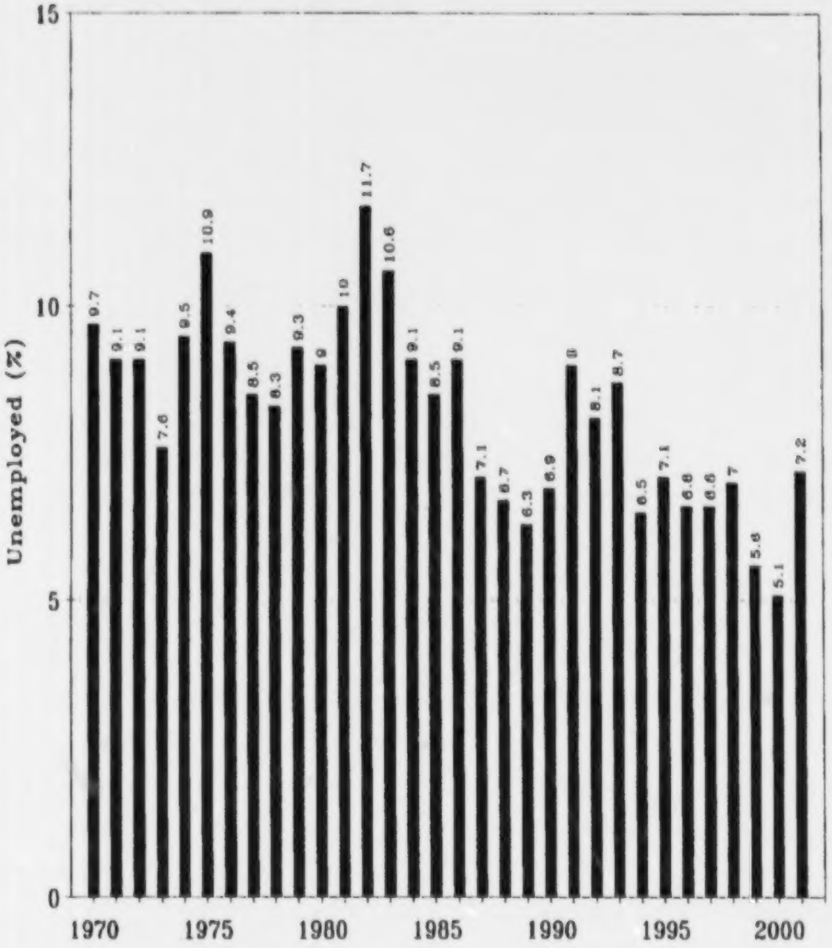
Employment Rate for College Students
Ages 16 to 24 Years
1970 to 2001



Among the key findings from our analysis of these data are the following:

- A growing share of college students between the ages of 16 and 24 years are also employed while attending college, from 41 percent in 1970 to 53 percent by 2001.
- Since 1985 a majority of college students in this age range have been working. Prior to 1985 most college students were not employed.
- The economic recession that began in March 2001 led to declines in student employment and increases in student unemployment, just as it did to other workers.
- The student employment rates in the late 1990s were the highest they

Unemployment Rate for College Students 16 to 24 Years
1970 to 2001



had been in the 30 year history of this data series, and the unemployment rates were the lowest.

- The employment rate for full-time college students was 50.9 percent in 2001, compared to 84.5 percent for part-time college students in this age range.
- In 2001 50.5 percent of male college students were also employed compared to 55.7 percent of females.
- In 2001 the proportion of white college students in this age range who were employed was 55.6 percent, compared to 56.8 percent for Hispanic students and 44.5 percent for black students.

These and many other findings result from our analysis of these data from the Bureau of Labor Statistics.

The Data

Every month the Census Bureau gathers data from a nationally representative sample of about 50,000 American households in the *Current Population Survey.* The primary purpose of this survey is to gather data on the employment and unemployment of household members. However, in some months additional questions are asked about school enrollment (October) and educational attainment (March) that provide annual measures of educational participation and attainment.

Our analysis is of data from the October Survey that is reported by the Bureau of Labor Statistics. Much of these data are available on the BLS website. The most recent report from BLS used in this compilation of data is available at:

http://stats.bls.gov/news.release/hsgec.toc.htm

Data used here come from Table 2 in this press release. Much of the historical data was supplied by Ryan Helwig at BLS.

We have compiled the available data into a large Excel workbook available on our website on the Spreadsheets page. This compilation summarizes far more data than the highlights summarized here.

All College Students

The chart on page 11 shows the trend in employment among college students ages 16 to 24 years. Clearly the trend was for substantial growth, at least until 2001 when the share of employed students reverted to early 1990s rates.

The chart on this page shows the unemployment rate for college students 16 to 24 years who were in the labor force. To be in the labor force one must be either working or looking for work. In 2001 the unemployment rate for college students in this age range was 7.2 percent, compared to less than 6 percent two years earlier. Clearly the burst of the late 1990s economic bubble restored college student unemployment rates to the rates that persisted from about 1987 through 1998.

Full-time/part-time status. The two charts on this page show the employment rates for full-time and part-time college students ages 16 to 24 years between 1970 and 2001. In 2001 the employment rate for full-time college students was 50.9 percent, compared to 84.5 percent for part-time students.

The employment rate for full-time students has clearly increased, substantially, over the last 30 years. In 1970 the employment rate stood at 38.1 percent. It rose to 50.3 percent by 1988 and eventually reached a peak of 55.1 percent in 2000.

While the unemployment rate for part-time students is much higher than it is for full-time students, the trend has been relatively flat for part-time students. Since 1970 the employment rate has ranged between 80.9 percent (1975 and 1986) and 89.0 percent (1987), but generally fluctuated between 82 and 86 percent during this period.

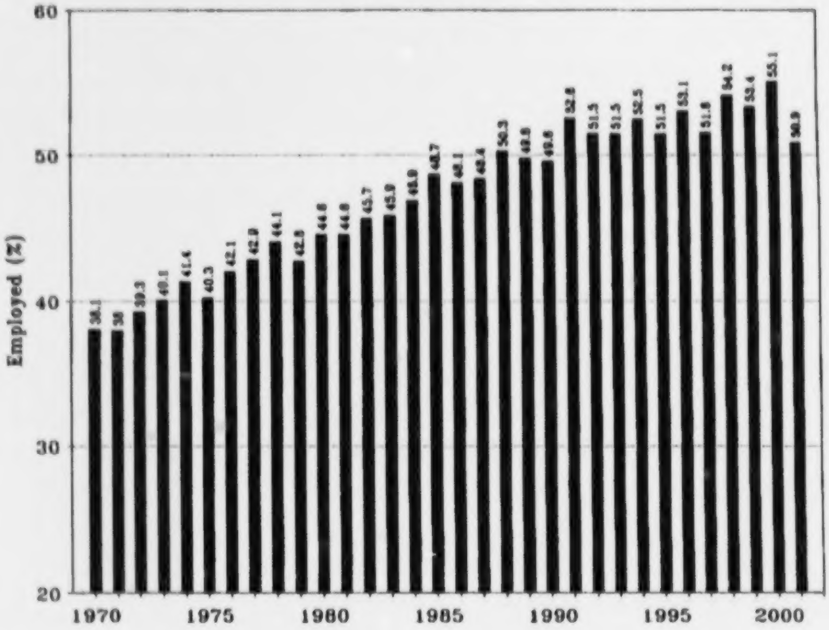
As the employment rate among full-time college students ages 16 to 24 years has increased, the share of 16 to 24 years old college students who are enrolled full-time has declined somewhat. In the early 1970s between 85 and 86 percent of college students were enrolled full-time. After 1973 the share enrolled full-time began a gradual decline to a low of 82.1 percent in 1994. By 2001 83.2 percent of college students in this age range were enrolled full-time.

Gender

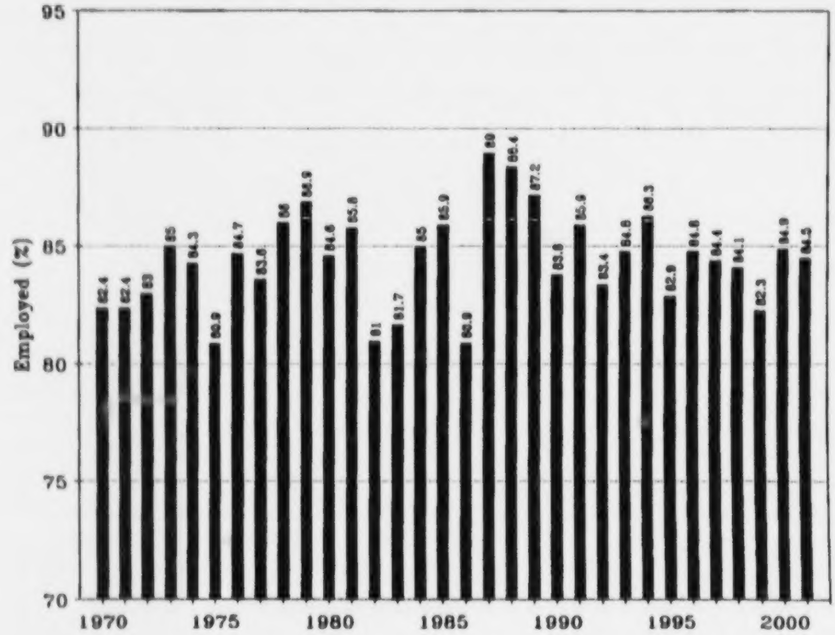
In October 2001, 50.5 percent of male college students ages 16 to 24 years were also employed. By comparison 55.7 percent of female college students in this age range were also employed.

As the chart on the following page shows, employment among college students has increased for both males

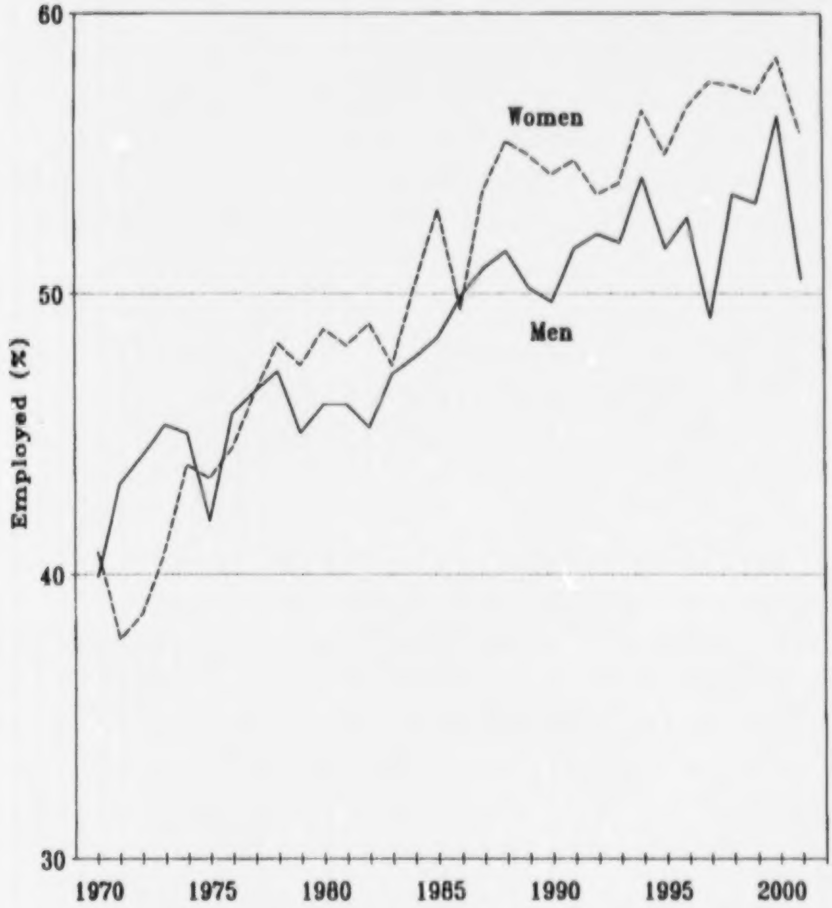
Employment Rate for Full-Time College Students
Ages 16 to 24 Years
1970 to 2001



Employment Rate for Part-Time College Students
Ages 16 to 24 Years
1970 to 2001



Employment Rate for College Students
Ages 16 to 24 Years by Gender
1970 to 2001



and females since 1970. However in the 1970s males were more likely to be employed than were females.

But in the 1980s and 1990s female college students have been more likely than males to be employed. And the gap is growing. Over the last twenty years the female employment rate has grown steadily to the current 5.2 percentage point difference.

Race/Ethnicity

As shown in the chart on the following page, the proportion of white, black and Hispanic college students ages 16 to 24 years that are also employed has grown over the last three decades.

White. In October 2001 there were 7,879,000 white college students between the ages of 16 and 24 years. (This number includes Hispanics who may be of any race by are about 95 percent white.) Whites were 79 percent of the college students in this age range in 2001, compared to 83 percent in 1990, 87 percent in 1980 and 90 percent in 1970. (If Hispanics are subtracted from the white population, white non-Hispanics were 70 percent of the college enrollment in 2001.)

Between 1970 and 2000 the share of white college students that were also employed increased from 41.5 to 60.3 percent, before falling back to 55.6 percent in 2001. The unemployment rate among white college students in this age range has fluctuated with the business cycle, but generally declined from about 8 percent in the 1970s and 1980s to about 6 percent in the 1990s. The all time low unemployment rates for whites were in 1999 and 2000 when they were about 4.6 percent. In 2001 these rates edged up to 6.2 percent, or about where they were during most of the 1990s.

Blacks. In October 2001 there were 1,279,000 black college students between the ages of 16 and 24 years. This was about 13 percent of all college students in 2001, compared to 11 percent in 1990, 10 percent in 1980 and 9 percent in 1970.

In 2001 44.5 percent of these students were also employed. The share of black college students also holding jobs has increased from 27.7 percent in 1970, to 31.4 percent in 1980 and 39.5 percent in 1990. A peak of 50.0 percent of black college students were also employed in 1998.

The unemployment rate for black college students in 2001 was 13.7 percent, up from 7.0 percent in 2000. Historically the unemployment rate for black college students has been especially high--well over 20 percent between 1978 and 1985. During the 1990s the black unemployment rate was lower than it had been in previous decades.

Hispanics. Hispanics may be of any race and thus most are included in the above numbers for whites and blacks. The Bureau of Labor Statistics began reporting data on Hispanics in 1987. In that year Hispanic students were

6.0 percent of all college students ages 16 to 24 years. By 1995 the Hispanic share was 8.8 percent and in 2001 it reached 9.5 percent.

In October 2001 536,000 of the 944,000 Hispanic college students ages 16 to 24 were also employed. Their employment rate of 56.8 percent exceeded the 55.6 percent for whites. The employment rate for Hispanics has only been reported since 1987, and small sample size contributes to statistical noise reflected on the chart to the right. But despite these limitations, Hispanic college students appear to be employed at about the same rate as white students. Likewise the unemployment rate among Hispanics appears to be similar to that for white college students.

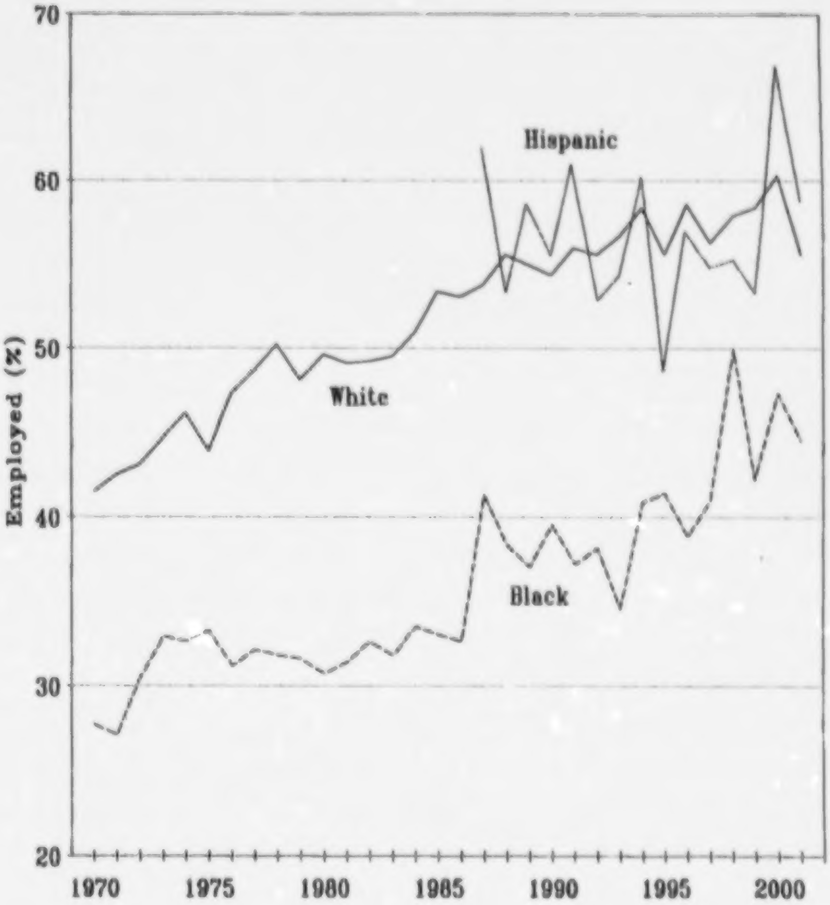
Other race. The difference between the total population data and data for whites and blacks is those from other racial groups, namely Asian and American Indian. This group is mainly Asian. It has grown from about 200,000 college students ages 16 to 24 years in 1979 to 800,000 in 2001, or from 2.8 to 8.0 percent of the college population in this age group.

The employment rate for those in this other race group rose from about 41 percent in 1990 to 45 percent by 2001. The unemployment rate for this group stood at 7.9 percent in 2001. As we have found in previous analyses, Asian college students are most likely to attend full-time and least likely to work while in college.

Institutional Type

The Bureau of Labor Statistics has reported labor force data on college students ages 16 to 24 years in 2-year and 4-year colleges since 1991. The trends are short, but the employment patterns are distinctive.

Employment Rate for College Students
Ages 16 to 24 Years by Race/Ethnicity
1970 to 2001



College students 16 to 24 years old in 2-year colleges are most likely to be employed while enrolled. In 2001 65.4 percent of these students were also employed, and an additional 9.3 percent of those in the labor force were looking for work. Between 1991 and 2001 the employment rate among these 2-year college students has ranged between 64.0 percent (1992) and 67.7 percent (2000). The unemployment rate for those in the labor force ranged from 5.7 percent in 1999 to 10.1 percent in 1995.

Students in this age range enrolled in 4-year colleges are less likely to be employed while enrolled. In 2001 48.8 percent were employed and 6.0 percent of those in the labor force were looking for work. Between 1991 and 2001 the employment rate ranged from 47.3 percent (1991) to 53.7 percent (2000). The unemployment rate in 2001 was 6.0 percent, and has ranged between 8.4 percent (1991 and 1993) and 4.8 percent (2000).

High School Employment

The Bureau of Labor Statistics data shed light on high school student employment also. Although we do not dwell on these data here, it is worth noting that in 2001 31.8 percent of high school students between the ages of 16 and 24 years (nearly all are 16 or 17) years old) were employed.

Between 1970 and 2001 the employment rate among these high school students has ranged between 28.6 percent (1983) and 38 percent (1978). In most years between 32 and 36 percent of high school students are holding jobs at the time of the October CPS. There appears to be no trends to these data although the business cycle appears to influence the fluctuations from year to year. In 2000 the unemployment rate got down to 12.7 percent--the lowest in the three decades of this data series.

Conclusion

Readers should note that the employment rates reported here reflect the intersection of student demand and employer supply of jobs for college students. There are no more or less employed college students than there are students who want the jobs and employers who want to hire college students at the time, place and price agreeable to both.

Against this demand/supply model of college student employment there has been very substantial growth in college student employment since 1970. The number of employed college students increased from 2.5 to 5.3 million during this period, and the share of college students with jobs increased from 41 to 53 percent. The unemployment rate among college students in the labor force declined from 9.7 to 7.2 percent, with the lower unemployment rate occurring mainly in the 1990s.

Finally college student employment should be set against a background of research of the effects of jobs on student academic performance. The traditional findings show that working while studying can improve academic performance. But students can take on too much of a good thing until it hurts their grades, course completions and graduation prospects.

Research finds that full-time college students should work less than 20 hours per week, and that jobs on campus can help student academic performance while jobs off campus that are not related to student coursework are likely to hurt grades, course completions and persistence to graduation. Like many things in life, employment while enrolled in college is best handled in moderation. Most college students will work most of the rest of their lives. This is their best chance to get the college education that establishes their career prospects.

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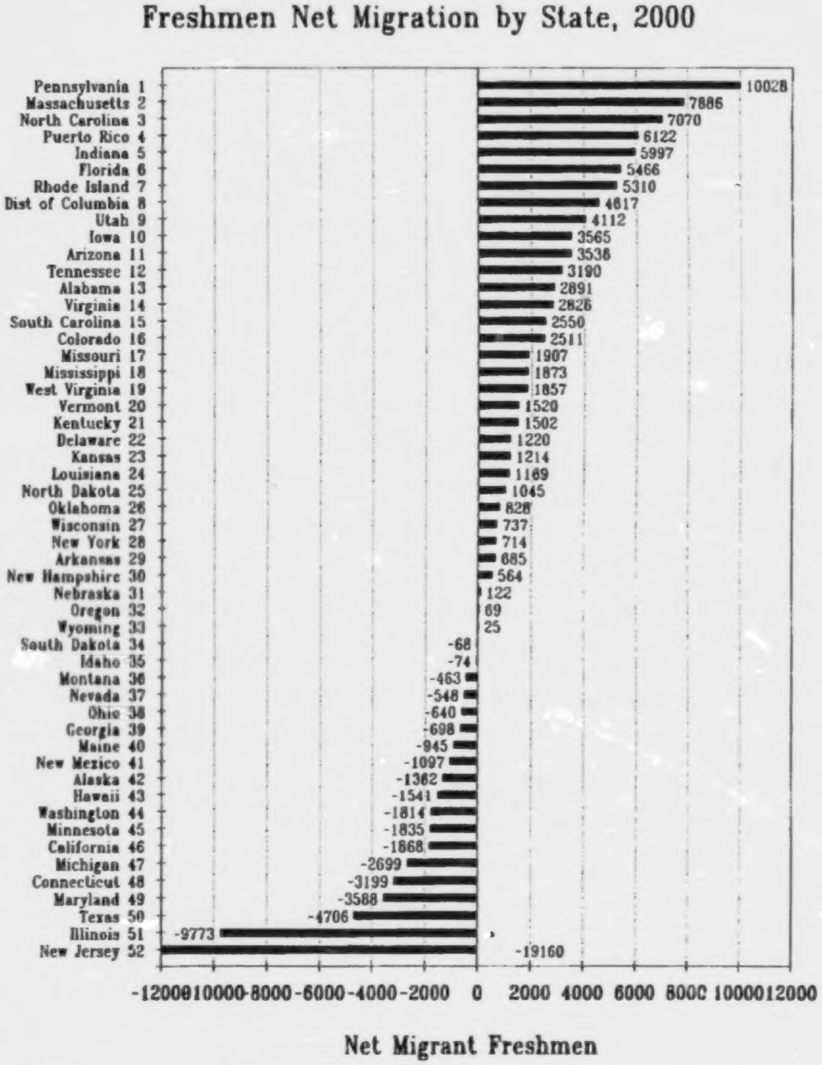
Postsecondary Education

OPPORTUNITY

The Environmental Scanning Research Letter of Opportunity for Postsecondary Education

Number 124 **www.postsecondary.org** **October 2002**

Interstate Migration of College Freshmen 1986 to 2000


Freshmen Net Migration by State, 2000

Each year about one in five college freshmen leave their home state to attend college in another state. These students bypass less expensive in-state public colleges and universities, and sometimes bypass state financial aid also, to attend college somewhere else.

These students speak loudly to higher education about what they want from college. They have chosen (and are able) to attend college at a higher price to themselves (and at a lower price to their home states) than they would have to pay at the state-subsidized colleges and universities in their home states.

This is a market feedback loop to states about how well they are serving (or not serving) the needs and expectations of their own state citizens.

- Some states attract more students to enroll in their institutions than they send to other states. These states provide relatively attractive higher educational opportunities to college students.
- Other states attract fewer students to their own institutions than they send to other states. These states provide relatively unattractive higher educational opportunities to college students.

But analysis of the college freshmen migration data gets much dicier when it is examined in detail.

- Going away to college is probably an important developmental step for many young people transitioning from childhood dependency to adult independence.
- If students learn from their fellow students while in college, then diversifying the student body should enrich the learning experience of all students.
- States may find it less costly to send their students to other states to be educated than to educate them in state-subsidized public colleges at

resident (below cost) tuition rates.

- Some states find importing non-residents to be a highly profitable business that enriches the state. (New England thinks and acts this way.)
- Some (underfunded) public institutions have taken to attracting non-residents to strengthen institutional finances and academic programs.
- Most states participate in interstate student exchange programs that enable students to attend institutions in other states at less than non-resident tuition rates. These programs are sometimes justified because of specialized programs not available to students in the originating state.

Whatever the interests of students, states and institutions are in inter-state student migration, there is a lot of it going on. In the fall of 2000, out of 1,661,000 college freshmen who had graduate from high school in 2000, 1,323,000 enrolled in college in their home state and 338,000 left their home state to enroll in another state.

About 20.3 percent of the freshmen came from another state. Mostly they crossed state borders to attend 4-year colleges, both public and private, but some crossed state lines to attend 2-year colleges as well.

And of course emigration rates varied widely across jurisdictions. In Washington, DC, 94.0 percent of the college freshmen came from outside of the District. By comparison, 6.6 percent of Texas college freshmen came from outside of Texas.

Here we update our January 2001 analysis of 1998 residence and migration data of college freshmen. These data have been compiled since 1986 and thus some useful trend analysis is possible, both nationally and across states.

The Data

These data on college freshmen enrollment reflect the state where the students were enrolled and the state of residency for students who had graduated from high school during the previous 12 months. The difference between these two numbers is net migration. The net migration data is available by state, and by institutional level and control by state.

The numbers used in this analysis are collected from all degree-granting colleges and universities by the National Center for Education Statistics. The data are collected in even numbered years in the fall enrollment survey through the IPEDS data system for higher education. (IPEDS stands for Integrated Postsecondary Education Data System.)

The data have been collected since 1986. However, the 1990 data were not released due to insufficient data reporting by colleges and universities in two states. The survey requires all institutions to fully and accurately complete the IPEDS enrollment survey to be most accurate and useful.

Data used in this analysis were prepared for OPPORTUNITY by Frank Morgan and Sam Barbett at the National Center for Education Statistics. We are very grateful to Frank and Sam for their attention to our data needs for this study. Because we receive state-level reports that are not otherwise published, we have scanned and PDFed the NCES reports for 1996, 1998 and 2000 for each state and posted these files on our State reports page on our website at:

http://www.postsecondary.org/pr/pr_02.asp

These reports provide more detail for each state on where its own freshmen were enrolled by state and type of institution, and where immigrants came from.

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Mission Statement

This research letter is founded on two fundamental beliefs. First, sound public social policy requires accurate, current, independent, and focused information on the human condition. Second, education is essential to the development of human potential and resources for both private and public benefit. Therefore, the purpose of this research letter is to inform those who formulate, fund, and administer public policy and programs about the condition of and influences that affect postsecondary education opportunity for all Americans.

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Net Interstate Migration

The chart on the first page of this issue of OPPORTUNITY ranks states by their net migration of college freshmen.

In 2000 33 states imported more freshmen than they exported, and 19 states exported more freshmen than they imported. In 1998 more states were net importers and fewer states were net exporters.

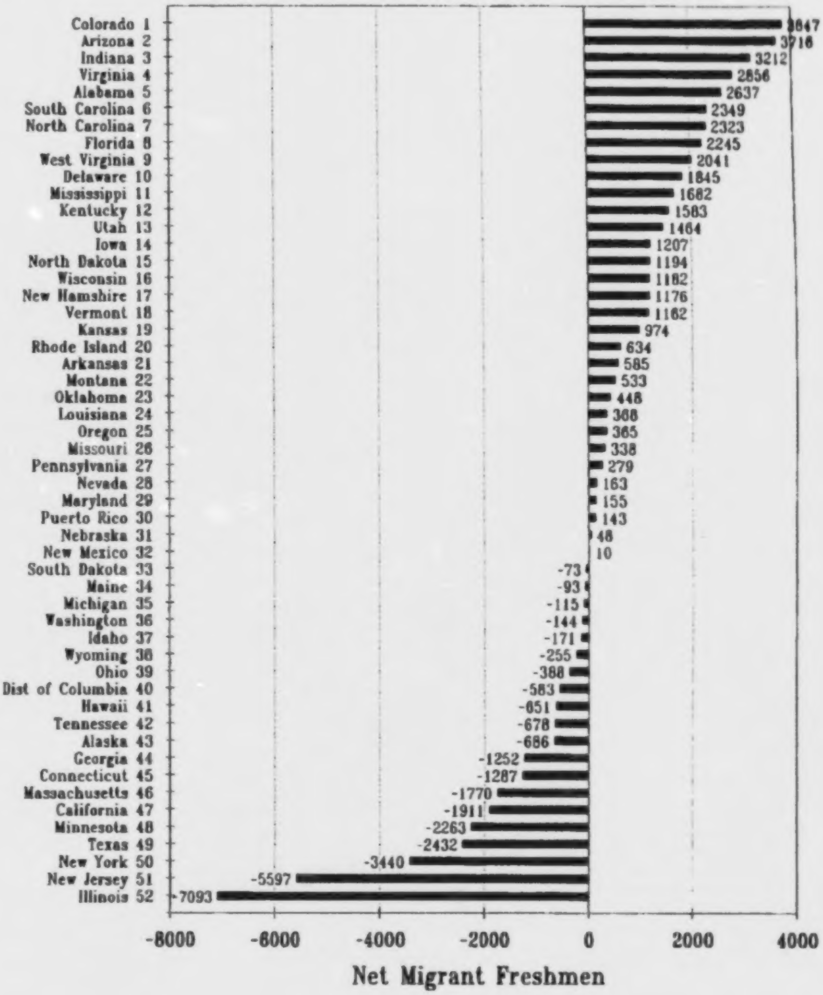
Pennsylvania led all states importing 10,028 more freshmen than it exported in 2000. In 1998 **Massachusetts** had been the national leader in college freshman imports. In 2000, out of 81,148 freshman residents of Pennsylvania, 14,215 left the state and enrolled in another state. But 24,243 freshmen from other states enrolled in Pennsylvania's colleges and universities.

- The states enrolling the largest numbers of Pennsylvania emigrants were **New York** (1968), **Ohio** (1699), **Maryland** (1218), **Virginia** (1147), **West Virginia** (992) and **Massachusetts** (932).
- Pennsylvania attracted the largest numbers of freshman immigrants from **New Jersey** (6919), **New York** (4508), **Maine** (2247) and **Ohio** (1778).

Following Pennsylvania in net migration of college freshmen were **Massachusetts** (7886), **North Carolina** (7070), **Puerto Rico** (7070), **Indiana** (5997), **Florida** (5466) and **Rhode Island** (5310).

At the other end of the scale are the net exporters of college freshmen. Two states stand out from the pack: **New Jersey and Illinois**. These two states have been the largest net exporters of their students for as long as NCES has collected and reported these data.

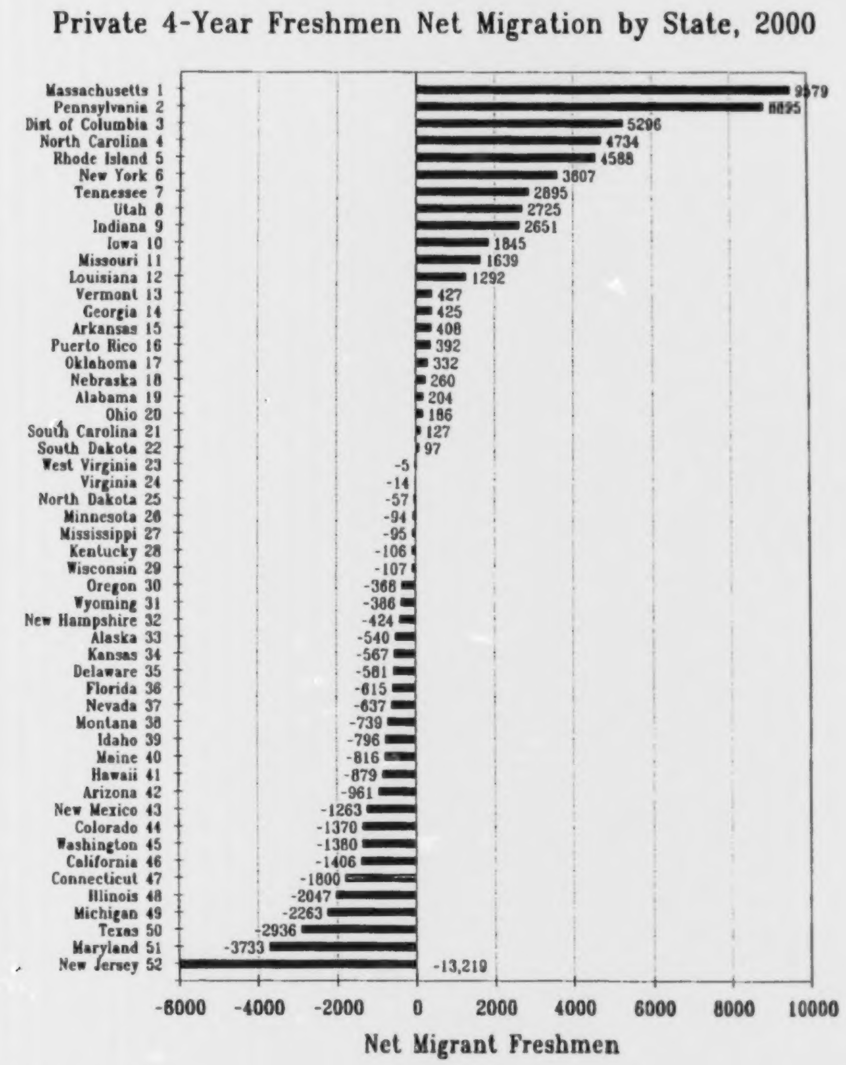
Public 4-Year Freshmen Net Migration by State, 2000



New Jersey sent 54,412 2000 high school graduates on to college in the fall of 2000. Of these 31,222 enrolled in New Jersey institutions and 23,190 left the state and went to college somewhere else. But only 3972 freshmen from other states came to New Jersey to start college in 2000. Thus the net migration of college freshmen was a staggering 19,218 outflow.

- When the 23,190 New Jersey resident freshmen left their home state to attend college elsewhere, they went mainly to **Pennsylvania** (6919), **New York** (4229), **Massachusetts** (1974), **Maryland** (1311), **Connecticut** (1127) and **Virginia** (1014).
- Of the 3972 freshmen that came to New Jersey and enrolled there, they came mainly from **New York** (958) and **Pennsylvania** (487).

Illinois is and always has been the second largest net exporter of its college freshmen. In 2000 out of the 76,861 high school graduates than enrolled in college immediately after high school, 58,781 enrolled in Illinois institutions and 18,080 left the state to enroll elsewhere. Only 8307 freshmen came from other states to enroll in


Private 4-Year Freshmen Net Migration by State, 2000

Illinois institutions. This produced a net outflow of 9773 college freshmen in 2000.

- Of the 18,080 Illinois residents that left the state to enroll elsewhere, the largest numbers went to **Indiana** (2761), **Iowa** (2516), **Wisconsin** (2242), **Missouri** (1987), **Michigan** (932) and **Ohio** (815).
- Of the 8307 residents of other states that enrolled in Illinois institutions, most came from **Missouri** (802), **Indiana** (763), **Michigan** (564) and **Wisconsin** (558).

Other states with especially large net outflows of college freshmen in 2000 included **Texas** (4706), **Maryland** (3588), **Connecticut** (3199) and **Michigan** (2699).

Public 4-Year Net Migration

One of the strangest anomalies in the study of interstate migration of college freshmen is the large numbers of freshmen to leave their home states to enroll in a public 4-year institution in another state. These students bypass the large state subsidies and lower prices in the public 4-year institutions in their home states to pay far higher prices at the same types of institutions in more distant states.

In 2000 109,767 freshmen left their home states to enroll in public 4-year colleges in other states at non-resident (full-cost plus institutional profit) prices, nearly always without state financial aid. These migration patterns should tell some states they may not be meeting the needs of their residents.

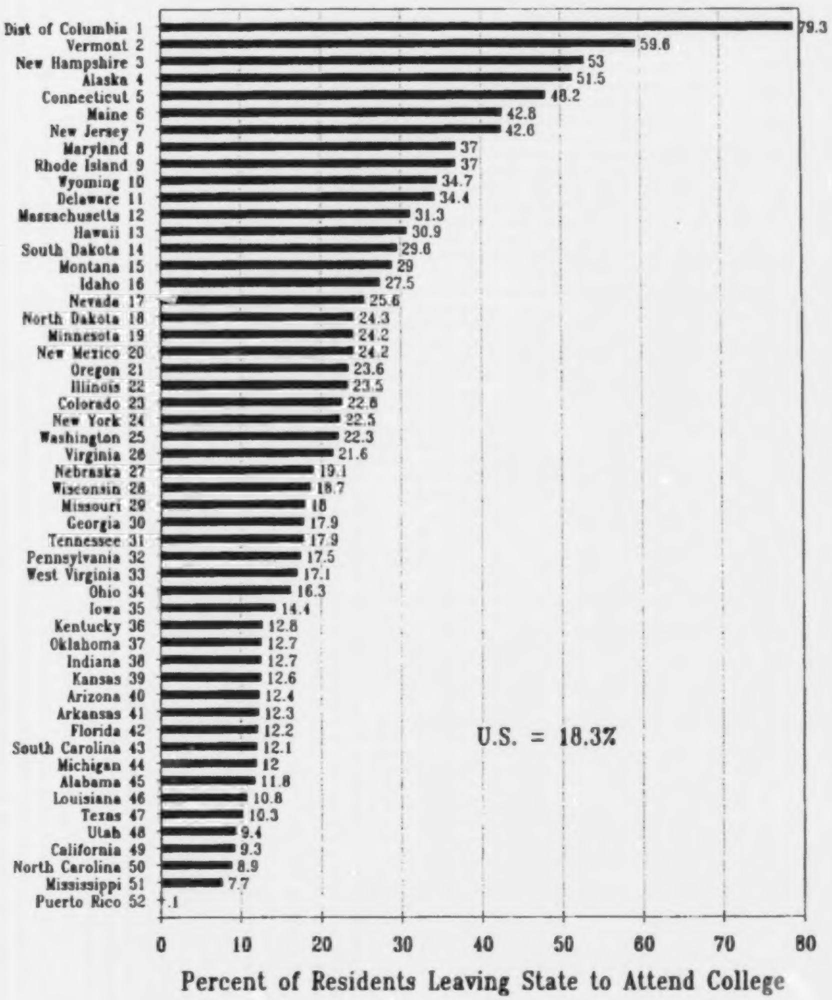
The chart on page 3 shows freshmen net migration between public 4-year colleges and universities by state in 2000. Thirty-two states attracted more freshmen to their public 4-year campuses than they exported to similar institutions in other states. Twenty states exported more freshmen to public 4-year institutions in other states than they attracted.

There are many big winners in this net flow of students to public 4-year campuses. The leaders are **Colorado** (3847), **Arizona** (3716), **Indiana** (3212), **Virginia** (2856), **Alabama** (2637), **South Carolina** (2349), **North Carolina** (2323), **Florida** (2245) and **West Virginia** (2041). There appears to be a disproportionate share of mountains and sea shore in these states, but there may be more.

For the record, these are where the big winners got most of their students from:

- **Colorado**: California (770), Texas (473), Illinois (344), New Mexico (197), New York (188).
- **Arizona**: California (1314), Illinois (356), Washington (251), Texas (431), Illinois (356) and Colorado (323).
- **Indiana**: Illinois (1576), Ohio (640), Michigan (382), Kentucky (252) and New York (191).
- **Virginia**: Maryland (1069),

Emigration Rate for State Resident Freshmen, 2000



Pennsylvania (758), New York (732), and New Jersey (721).

- **Alabama**: Georgia (1196, Tennessee (490), Florida (390), and Mississippi (217).

At the other end of the scale, there were a few large states that have large negative net-migration numbers for public 4-year institutions. The leading losers were **Illinois and New Jersey** with **New York, Texas, Minnesota** and **California** trailing. The states where they sent their emigrant freshmen were:

- **Illinois**: Indiana (1576), Iowa (1449), Wisconsin (859), Missouri (735), Ohio (395), Arizona (356) and Colorado (344).
- **New Jersey**: Pennsylvania (1838), Maryland (794), Delaware (646) and New York (530).
- **New York**: Pennsylvania (1225), Maryland (775), Delaware (461), Connecticut (396) and Massachusetts (368).
- **Texas:** Oklahoma (755), Louisiana (575), Colorado (473) and New Mexico (443).
- **Minnesota**: Wisconsin (2587), North Dakota (1335), South Dakota (417) and Iowa (398).

Private 4-Year Net Migration

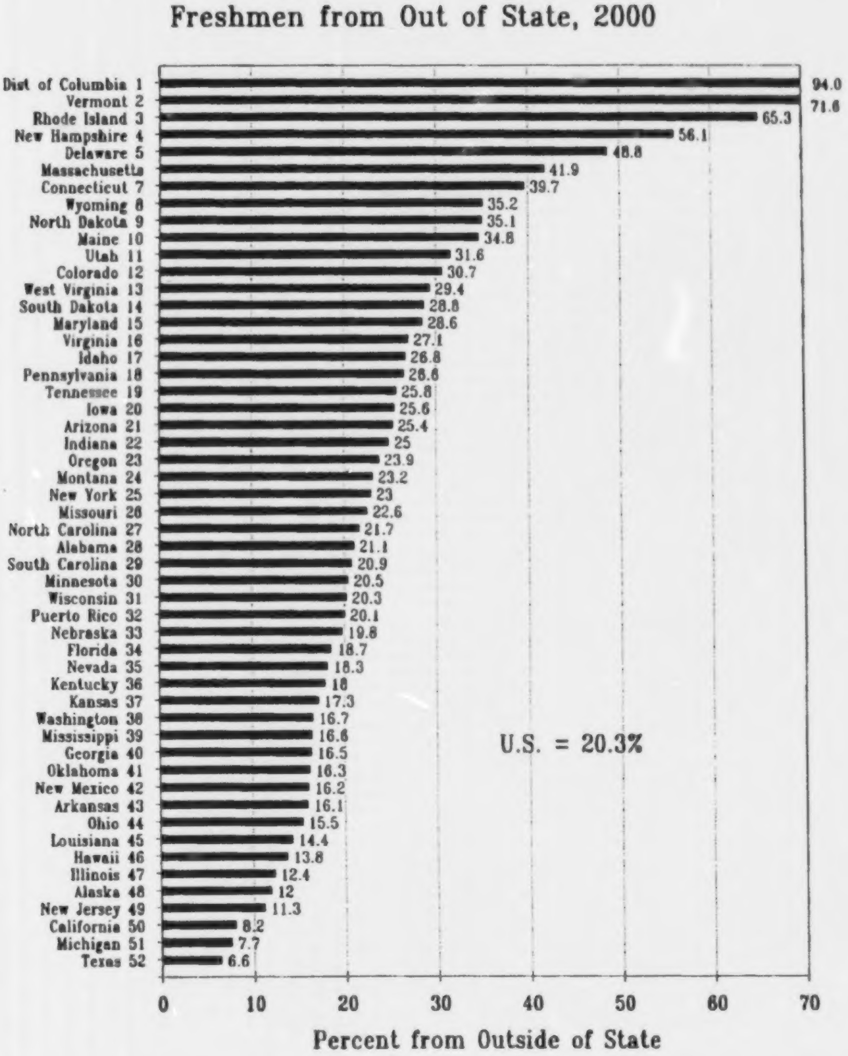
In 2000 about 57 percent of the freshmen who crossed states to enter college did so to enroll in a private 4-year college. Given the distinctiveness of private 4-year colleges and universities and their institutional marketing efforts, the migration of students to attend them seems logical to us. Their marketing success in the face of their sticker-price disadvantage compared to public institutions attests to their attractiveness to a significant share of the freshmen population.

In 2000 net migration of freshmen entering private 4-year institutions was positive in 22 states and negative in the remaining 30. Actually, just two states--**Massachusetts** and **Pennsylvania**--accounted for 35 percent of the positive net migration of college freshmen. And the top five states--adding **District of Columbia, North Carolina** and **Rhode Island**--accounted for 59 percent of the positive net migration.

Massachusetts stands out for reasons that are obvious to anyone familiar with American higher education. Three of the top four national liberal arts colleges in the 2003 rankings by U.S. News and World Report are in Massachusetts. They are Amherst (1st), Williams (2nd-tie), and Wellesley (4th). Additionally, two of the top eight national doctoral universities are in Massachusetts. They are Harvard (2nd) and Massachusetts Inst of Technology (4th-tie).

In 2000 Massachusetts exported 9715 freshmen to private 4-year institutions in other states, but imported 19,294 from other states to its own private 4-year institutions.

- It exported its students mainly to New York (2171), Rhode Island (1757), Connecticut (1201), New Hampshire (870) and Pennsylvania (643).


Freshmen from Out of State, 2000

- Massachusetts imported its private 4-year college freshmen mainly from New York (3645), Connecticut (2445), New Jersey (1762), California (1173) and New Hampshire (1143).

Pennsylvania falls closely on the heels of Massachusetts as a large net importer of freshmen attending private 4-year colleges and universities. In 2000 Pennsylvania exported 8125 of its high school graduates to institutions in other states, but at the same time attracted 17,020 from other states to its own private 4-year colleges.

- Pennsylvania exported students to private 4-year colleges mainly in New York (1593), Ohio (990), Massachusetts (859), District of Columbia (562) and Maryland (519).
- Pennsylvania attracted students to its private 4-year colleges mainly from New Jersey (4825), New York (3143), Maryland (1451) and Ohio (1003).

Other states were large net exporters of freshmen to private 4-year colleges in other states. The grand daddy of them all, by far, was New Jersey. In 2000 New Jersey exported 13,219 more freshmen to private 4-year institutions than it imported. In 2000 15,480 left the state and enrolled elsewhere, while only 2261 came to New Jersey to study.

- The main state destinations for students from New Jersey entering private 4-year colleges elsewhere were Pennsylvania (4825), New York (3618), Massachusetts (1762), Connecticut (909) and District of Columbia (702).
- The main suppliers of non-resident private 4-year college freshmen in 2000 were New York (675) and Pennsylvania (306).

Other states exporting substantially more freshmen to private 4-year colleges than they imported were **Maryland** (3733), **Texas** (2936), **Michigan** (2263) and **Illinois** (2047).

Rates

To this point we have examined only numbers of migrants by state--net, out and in. But states vary substantially by size and further comparisons here control for size by examining rates.

The chart on page 5 shows the proportion of freshmen residents of each state leaving their home states to attend college elsewhere in the United States. For the U.S. 18.3 percent of fall 2000 freshmen who were 2000 high school graduates from somewhere within the U.S. left their home states to enroll elsewhere. This rate has been relatively constant over time. For the years NCES has published these data, the proportion of freshmen emigrating to another state to attend college has been as follows:

2000	18.2%
1998	18.3%
1996	18.0%
1994	20.2%
1992	19.1%
1990	dna
1988	17.6%
1986	21.6%

Interstate Migration of First-Time College Freshme ho Graduated from High School in Previous 12 Months

	1986			1988			1992			1994			1996			1998			2000		
	Out of	Into	Net Mig	Out of	Into	Net Mig	Out of	Into	Net Mig	Out of	Into	Net Mig	Out of	Into	Net Mig	Out of	Into	Net Mig	Out of	Into	Net Mig
Alabama	1592	3487	1895	1980	5764	3784	2111	6892	4781	2203	6373	4170	2397	5726	3329	2608	5679	3071	2886	5777	2891
Alaska	1046	40	-1006	1142	64	-1078	1088	264	-824	1230	201	-1029	1444	191	-1253	1647	280	-1367	1564	202	-1362
Arizona	1230	3721	2491	1505	3782	2277	1847	3935	2088	2158	4848	2690	2279	5134	2855	2267	5968	3701	2531	6067	3536
Arkansas	1492	997	-495	1679	2178	499	1823	2481	658	1846	2045	199	1753	2450	697	1890	2469	579	1870	2555	685
California	6431	10555	4124	8555	8204	-351	12529	12229	-300	15706	14277	-1429	14962	13034	-1928	14355	16251	1896	14956	13088	-1868
Colorado	3529	1603	-1926	4205	5213	1008	4110	6049	1939	4662	5637	975	4483	5996	1513	4988	6846	1858	4974	7485	2511
Connecticut	9270	5079	-4191	9910	4966	-4944	10226	5601	-4625	10109	6044	-4065	10358	6764	-3594	10946	6942	-4004	10988	7789	-3199
Delaware	1142	2666	1524	1194	3096	1902	1289	2664	1375	1525	2686	1161	1363	2977	1614	1395	3182	1787	1496	2716	1220
Dist of Col	1114	4761	3647	1248	4656	3408	1111	5401	4290	1281	6718	5437	1304	6734	5430	1449	6455	5006	1508	6125	4617
Florida	7143	7312	169	8405	8375	-30	8853	8726	-127	9058	9449	391	8734	9956	1222	8566	14961	6395	8406	13872	5466
Georgia	4737	4971	234	5822	5624	-198	6758	6672	-86	6051	7500	1449	6203	7203	1000	6473	8282	1809	7498	6800	-698
Hawaii	1227	531	-696	1439	351	-1088	1559	764	-795	1755	756	-999	2069	1111	-958	2163	854	-1309	2401	860	-1541
Idaho	807	2350	1543	971	2651	1680	1443	3084	1641	1685	2456	771	1899	2137	238	1921	2620	699	2048	1974	-74
Illinois	13133	4444	-8689	15885	5601	-10284	14552	7181	-7371	15858	6357	-9501	15948	7410	-8538	17115	8217	-8898	18080	8307	-9773
Indiana	2947	6113	3166	3509	9769	6260	3920	9836	5916	4558	9756	5198	4474	9876	5402	4737	11335	6598	4698	10695	5997
Iowa	2858	3762	904	3282	5209	1927	3158	6248	3090	3209	6294	3085	3024	6394	3370	3189	6521	3332	3392	6957	3565
Kansas	1282	3182	1900	1750	3486	1736	1945	3512	1567	2032	3513	1481	2125	3522	1397	2429	3824	1395	2643	3857	1214
Kentucky	1826	2529	703	2104	3707	1603	2235	3984	1749	2469	3838	1369	2769	3692	923	3083	4083	1000	3067	4569	1502
Louisiana	1858	3553	1695	2458	3719	1261	2776	4396	1620	3182	4966	1784	3177	4391	1214	2952	4312	1360	3020	4189	1169
Maine	1862	1282	-580	2050	1103	-947	2928	2069	-859	2968	2050	-918	3286	2255	-1031	3343	1952	-1391	3296	2351	-945
Maryland	7790	3330	-4460	8628	4303	-4325	8937	5816	-3121	9415	6518	-2897	9935	6959	-2976	10606	7024	-3582	11237	7649	-3588
Massachusetts	9184	15390	6206	8985	17590	8605	11864	19354	7490	11586	20055	8469	12431	20739	8308	12770	22115	9345	13518	21404	7886
Michigan	4589	2346	-2243	5706	3191	-2515	5619	4922	-697	6322	5647	-675	5803	6045	242	6532	6388	-144	6994	4295	-2699
Minnesota	5556	3991	-1565	6835	5458	-1377	6966	5834	-1132	7431	6292	-1139	7853	6548	-1305	8358	13642	5284	9493	7658	-1835
Mississippi	1016	1664	648	1578	1788	210	1637	3059	1422	1892	3101	1209	1477	3257	1780	1369	3100	1731	1367	3240	1873
Missouri	3633	4539	906	4150	4901	751	4590	5991	1401	4770	6555	1785	5121	6703	1582	5414	7481	2067	5734	7641	1907
Montana	1004	155	-849	1172	352	-820	1481	1248	-233	1692	1324	-368	1722	1389	-333	1718	1372	-346	1779	1316	-463
Nebraska	1581	1665	84	2042	1807	-235	2177	2216	39	2229	2298	69	2149	2473	324	2431	2520	89	2538	2660	122
Nevada	812	194	-618	846	584	-262	1220	593	-627	1382	857	-525	1579	1054	-525	1740	1000	-740	1570	1022	-548
New Hampshire	2174	2677	503	2373	4091	1718	3003	4791	1788	3017	4684	1667	3394	4927	1533	3874	4494	620	4289	4853	564
New Jersey	20582	1693	-18889	21458	1879	-19579	21372	2868	-18504	22195	3038	-19157	22218	3502	-18716	23160	4000	-19160	23190	3972	-19218
New Mexico	1038	943	-95	1496	1180	-316	1621	1314	-307	2143	1314	-829	2347	1560	-787	2632	2025	-607	2766	1669	-1097
New York	18664	16480	-2184	21112	12826	-8286	21809	17872	-3937	23581	19678	-3903	24268	21125	-3143	24369	23894	-475	24159	24873	714
North Carolina	2005	9529	7524	2434	9708	7274	2428	11044	8616	2675	11133	8458	3044	10463	7419	3409	10964	7555	3866	10936	7070
North Dakota	407	1561	1154	581	2141	1560	1048	2538	1490	1044	2300	1256	1182	2527	1345	940	2354	1414	1527	2572	1045
Ohio	7079	6265	-814	8858	8671	-187	9336	8991	-345	9690	9794	104	9282	10432	1150	10424	11960	1536	11422	10782	-640
Oklahoma	1509	1130	-379	1984	1958	-26	2176	2157	-19	2261	2295	34	2374	2368	-6	2389	3147	758	2490	3318	828
Oregon	1660	2306	646	2042	2760	718	2791	3341	550	3337	3721	384	3371	3867	496	3832	4059	227	3926	3995	69
Pennsylvania	10543	14662	4119	12278	16667	4389	12350	18835	6485	13038	19395	6357	13667	19850	6183	14885	22270	7385	14215	24243	10028
Rhode Island	1616	4256	2640	1762	2264	502	2020	6442	4422	2151	6700	4549	2408	6245	3837	2369	6815	4446	2407	7717	5310
South Carolina	2088	3114	1026	2432	3862	1430	2549	3534	985	2677	4400	1723	2701	5133	2432	2766	5291	2525	2767	5317	2550
South Dakota	953	1161	208	1149	1057	-92	1213	1517	304	1275	1719	444	1514	1339	-175	1617	1453	-164	1844	1776	-68
Tennessee	2933	4841	1908	3925	5450	1525	4071	5694	1623	4180	6300	2120	4367	6916	2549	4660	7623	2963	5371	8561	3190
Texas	4311	5031	720	6225	5793	-432	7597	6990	-607	8324	8486	162	9561	7666	-1895	11239	7979	-3260	12070	7364	-4706
Utah	788	496	-292	884	842	-42	990	4147	3157	1078	5426	4348	1045	5716	4671	1288	6078	4790	1196	5308	4112
Vermont	1048	3170	2122	1208	2490	1282	1583	3141	1558	1733	3229	1496	1781	3451	1670	2043	3611	1568	2146	3666	1520
Virginia	6105	7021	916	7485	8921	1436	7028	10704	3676	7244	10628	3384	7243	11282	4039	8211	11079	2868	8114	10940	2826
Washington	2559	2018	-541	3265	2364	-901	3855	3359	-496	4192	4153	-39	4732	4241	-491	5193	3579	-1614	6041	4227	-1814
West Virginia	1142	2529	1387	1459	4063	2604	1619	3637	2018	1622	3601	1979	1698	3411	1713	1781	3560	1779	1818	3675	1857
Wisconsin	3454	5783	2329	4641	6651	2010	5212	4308	-904	5386	4777	-609	6019	5021	-998	6152	6591	439	6844	7581	737
Wyoming	625	501	-124	597	803	206	892	631	-261	839	952	113	925	945	20	1038	1052	14	1177	1202	25
Puerto Rico							920	82	-838	761	40	-721	674	22	-652	633	6161	5528	39	6161	6122
Virgin Islands							331	0	-331	278	6	-272	325	5	-320	371	17	-354	266	8	-258
TOTALS	194974	203379	8405	228683	233933	5250	248566	278958	30392	264985	296180	31195	272261	304134	31873	287729	345731	58002	299502	337836	38334

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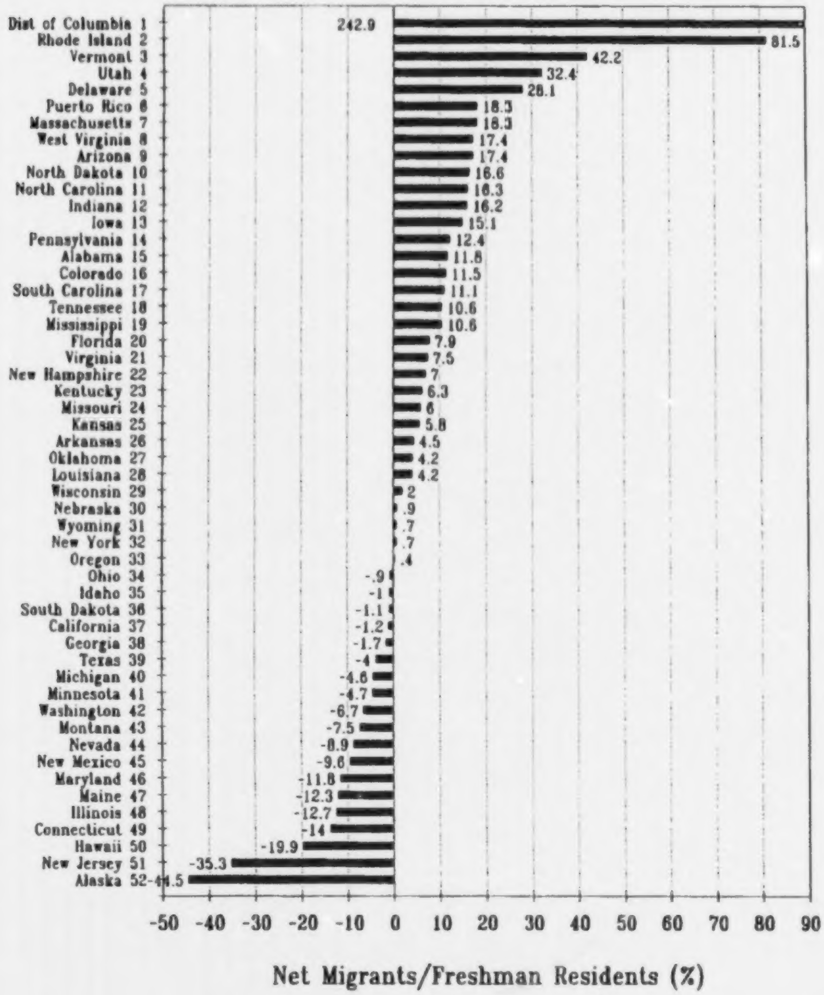
Freshmen Net Migration Rates by State, 2000



Across the 50 states (plus District of Columbia and Puerto Rico) the proportion of college freshmen leaving their home state to enroll somewhere else ranged very widely, from 79.3 percent in the **District of Columbia** to 0.1 percent in **Puerto Rico**. Generally college freshmen from the northern states are most likely to leave their home states to attend college, while students in southern states are least likely to leave their home states for college.

The chart on page 6 shows the proportion of freshmen enrolled in each state that came from another state. In 2000 this was 20.3 percent. This immigration rate is greater than the emigration rate because it includes nonresident aliens and students for whom state of residence could not be determined.

Across the states the proportion of freshmen that came from outside of the state ranged from 6.6 percent in **Texas** to 94.0 percent in the **District of Columbia**. Generally the states most likely to have the largest proportion of freshmen from outside of the state are the smaller states. The states likely to have the smallest proportion of freshmen from out of state are the most populous states. The exceptions are states like **Massachusetts and Connecticut** with large numbers of out-of-state freshmen. Because these non-resident freshmen bring a great deal of money to community and state economies where they attend, and because they bring geographic diversity to the campuses, they are clearly assets to institutions and states.

The chart on this page ranks the state on their net migration rates. This rate is the number of net migrant freshmen for each state divided by the number of college freshmen residents of that state (or jurisdiction).

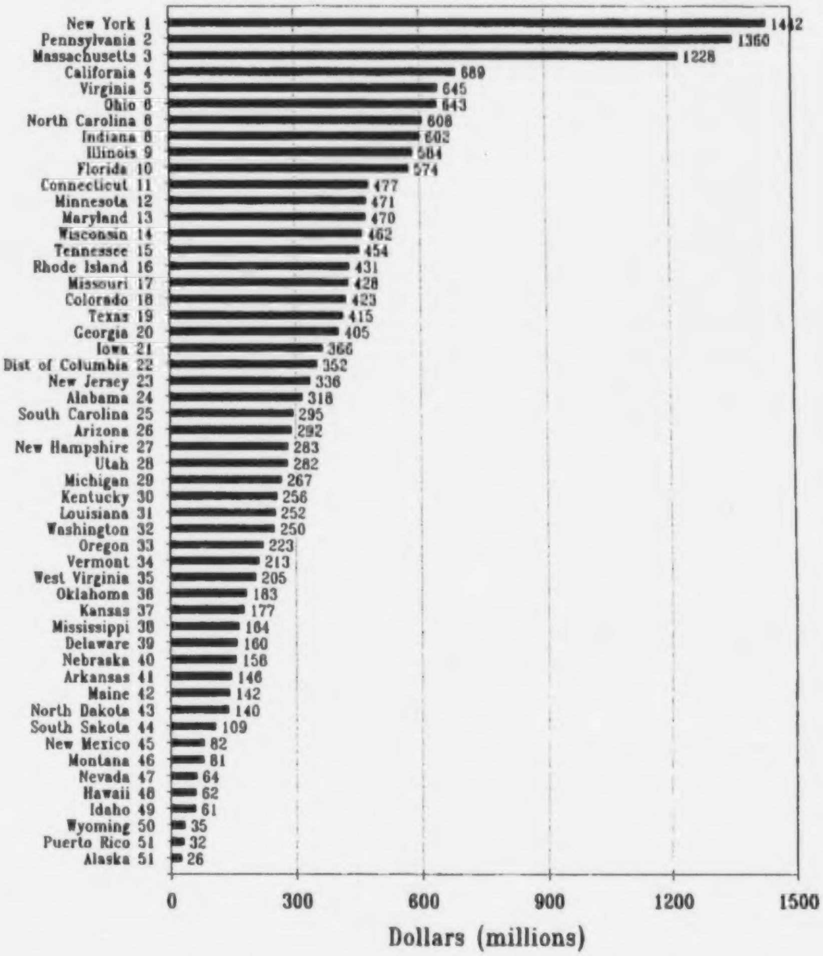
The states with the largest positive net migration rates are also the smallest, beginning with the city-state of the **District of Columbia**. With only 1901 resident freshmen, the District sent 1508 to college outside of DC and attracted 6125 from the rest of the country. Other states with large positive net migration rates were **Rhode Island, Vermont, Utah** and **Delaware.**

The states with the largest negative net migration rates were **Alaska, New Jersey, Hawaii, Connecticut, Illinois, Maine** and **Maryland**. These states provide relatively unattractive higher educational opportunities because they lose more students to other states than they attract.

Economic Issues for States

There are very large economic benefits to states of student migration across state lines to attend college. Unfortunately, states view this is a "brain drain" issue and attempt to thwart student emigration. However, we very conservatively estimated that states benefitted by about $19 billion in 2000-01. Here is how we derived our estimates.

Economic Value of Undergraduate Migration to States 2000



We estimate three categories of financial benefits to states of student migration:

- Public four-year undergraduate immigrants bring about $6.8 billion to state economies and their public four-year institutions.
- Private four-year undergraduate immigrants bring another $10.2 billion to state economies.
- State residents who emigrate to public four-year institutions save state tax payers about $1.9 billion in state subsidies.

Significantly, every state benefits from each of these categories. Every state attracts non-residents to its public four-year institutions, every state (except Wyoming which has no private institutions) attracts nonresidents to its private four year institutions and every state exports some of its students to public four-year institutions in other states.

As the chart on this page shows, student migration brings the largest economic benefits to three states: **New York** ($1442 million), **Pennsylvania** ($1360 million) and **Massachusetts** ($1228 million). These three states alone gained over 21 percent of the total economic value of undergraduate migration of $18.8 billion in 2000.

(Those interested in the details of these calculations may consult the Excel worksheet containing the data and formulas used in this analysis. This spreadsheet is located on our website along with the pdf version of this article.)

Summary

Each year about one in five college freshmen leave their home state to enroll in college in another state. This trend has persisted since 1986 when these data were first collected by the National Center for Education Statistics. This is a part of leaving home, to go away to college. Some just go farther than others do.

In many ways states view student migration as important state policy issues.

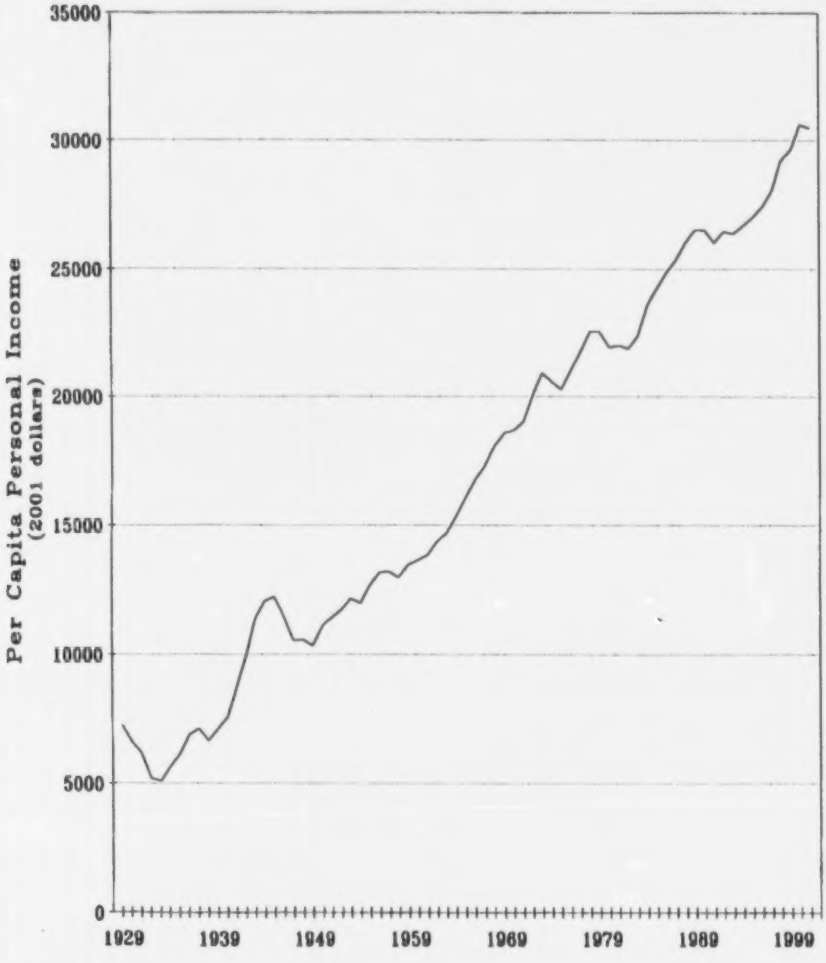
- Some states try to stem their "brain drain" by offering incentives to attend in-state institutions with programs like merit scholarships.
- Other states try to attract nonresidents to their public and private colleges to increase institutional revenues and broaden program offerings, diversify student enrollments, and increase community and state economic activity. Most states participate in inter-state agreements that enable students to cross state boundaries but pay less than non-resident tuition rates.

Many of these state programs operate at cross-purposes. In this respect inter-state freshmen migration is a hodgepodge of state confusion. But the signal that stands out to us is that one in five students chooses to bypass the benefits of instate enrollment for something different and maybe better.

State Per Capita Personal Income in the Human Capital Economy
1973 to 2001

In 2001 per capita personal income in the United States was $30,472. Across the 50 states per capita personal income ranged from $21,750 in **Mississippi** to $42,435 in **Connecticut**. Data on personal income have been compiled in the United States since 1929. When these data are divided by the resident population the result is per capita personal income.

Since 1973 the United States has been in what we call the Human Capital Economy. Since about 1973 the incomes of individuals, families, cities and states have been reallocated *according to educational attainment*. Those with the most education have seen the largest gains in their real (inflation adjusted) incomes, while those with the least education have seen the largest real declines in their incomes. Prior to 1973 educational attainment strongly influenced incomes, but real incomes increased at all levels of educational attainment. All that changed in the early 1970s.



Per Capita Personal Income in the United States
1929 to 2001

In this analysis we look at what has happened to state per capita personal incomes between 1973 and 2001. *A priori* we would expect the same sort of personal income redistribution to have occurred across states as we have observed for individuals, households and families, cities and states in previous analyses. Our expectation is that between 1973 and 2001 per capita personal income will have grown the most in those states with the highest concentrations of college-educated adults, and further that per capita personal income will have grown the least in those states with the lowest concentrations of college educated adults.

In fact our analysis of data bears out this expectation. The greatest growth in state per capita personal income has tended to occur in those states with the largest share of college graduates in their adult populations. Those states with the thinnest representation of college educated adults have tended to see real growth in state per capita personal income well below the growth rate for the country.

Our analysis finds that many other factors influence personal income, and that these factors appear to be deeply imbedded in the history, traditions and expectations of each state--in short its social and political culture. Policy making operates from this foundation. But national and global economic forces also strongly influence development, job creation, personal incomes and affluence. The states with the strongest human capital foundations were also the states best positioned to exploit economic development opportunities that have appeared during the last 30 years.

This analysis begins with a basic description of per capita personal income in the United States, across time since 1929, and across the 50 states. The two basic stories are ones of extraordinary and persistent real growth over more than seven decades, and of fascinating fluctuations in growth patterns in each of the 50 states over this period. It is these fluctuations that interest us--and keep governors and legislators awake at night worrying about growing their state economies.

The Data

The core data used in this analysis is per capita personal income data for the United States, for regions and for states. These data are compiled by the Bureau of Economic Analysis as a part of the National Income and Product Accounts of the United States. We downloaded the complete data set from BEA's website at:

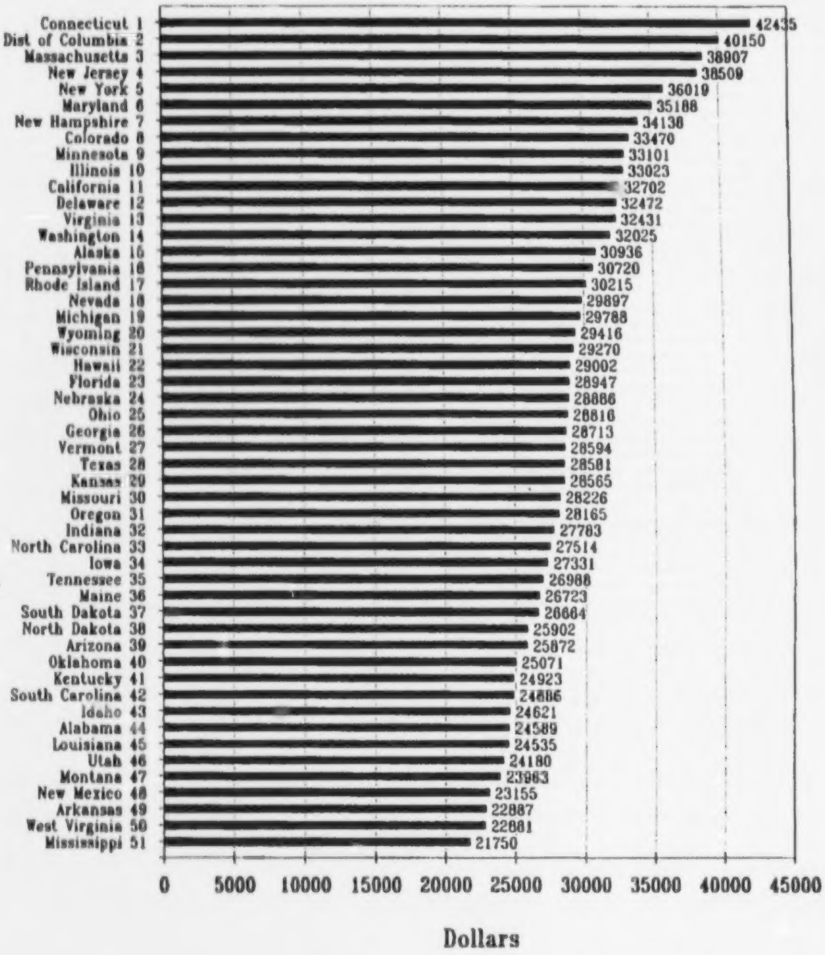
http://www.bea.gov/bea/regional/spi/

Personal income is defined by the BEA as the income received by all persons from participation in production, from government and business transfer payments, and from government interest. It is the sum of net earnings by place of residence, rental income of persons, personal dividend income, personal interest income, and transfer payments. Personal income is measured before the deduction of personal income taxes and other personal taxes. It is reported by BEA in current dollars. Per capita personal income is the annual personal income of residents divided by annual resident population.

In part of our analysis we deflate the current dollar amounts of per capita personal income by the Consumer Price Index (CPI) to measure real income gains, which convert to real living standard gains since 1929. The CPI data are available from the website of the Bureau of Labor Statistics at:

http://stats.bls.gov/cpi/

Per Capita Personal Income by State
2001

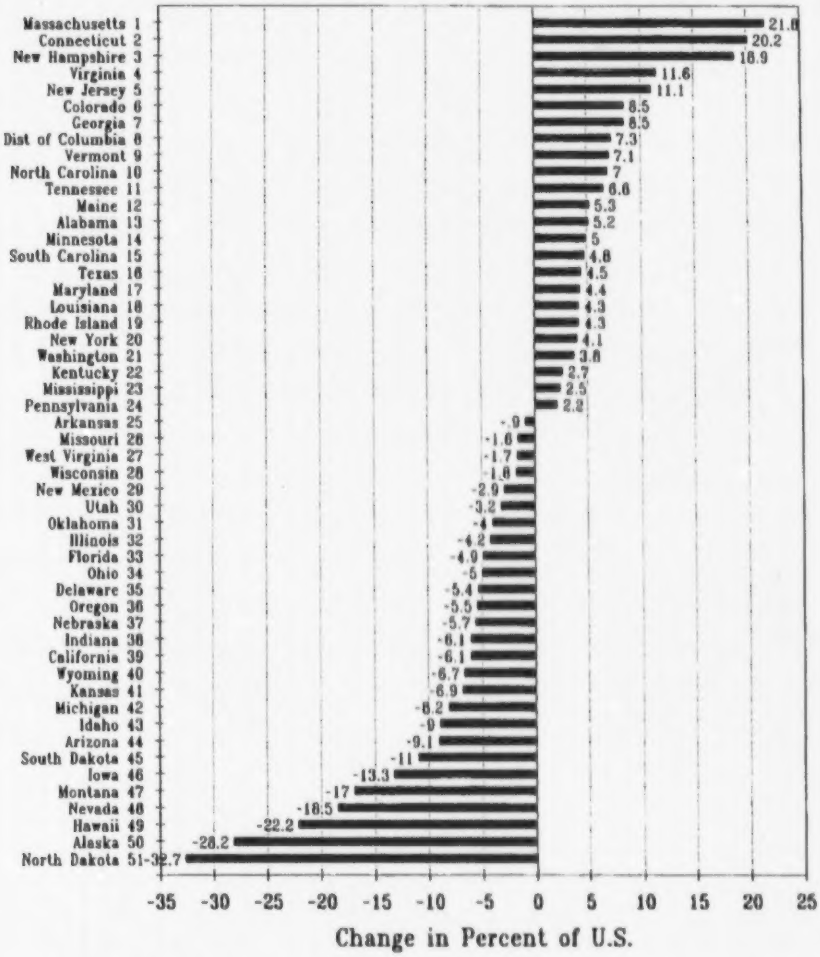


The core of our analysis is based on state per capita personal income in relationship to national per capita personal income. This eliminates the need for a CPI adjustment for inflation. It also facilitates the comparison of states to each other at different points in time, particularly between 1973 and 2001--the era of the Human Capital Economy.

Growth in Per Capita Personal Income

In 1929 per capita personal income in the United States was $700. By 2001 it had risen to $30,472. If the CPI is used to remove inflation from this gain, the gain was from $7,237 to $30,472. Or real per capita personal income increased 4.2 times over this 73 year period. Or, living standards

Change in State Per Capita Personal Income
Percent of U.S. between 1973 and 2001



in 2001 were 4.2 times better than they were in 1929 in economic terms. Real per capita personal income between 1929 and 2001 is shown in the chart on page 10.

Of course this growth was not continuous. Real per capita personal income tends to decline during the recession phase of the business cycle with the largest declines occurring in the 1930s during the Great Depression and again in the late 1940s following World War II. Subsequent year-to-year declines in real per capita personal incomes during economic recessions were relatively milder although the two recessions in the early 1980s seriously restrained income growth for several years. Currently the United States is in a similar recession although its duration remains uncertain.

State Per Capita Personal Income

The chart on page 11 shows per capita personal income in the 50 states plus the District of Columbia in 2001. The range across the states was nearly two-to-one, and was from $21,750 in **Mississippi** to $42,435 in **Connecticut**.

It is important to note that this very wide distribution in per capita personal income has persisted over very long periods of time. These data were first compiled for 1929 and in that year per capita personal income was highest in the **District of Columbia** and lowest in **South Carolina**. By 1950 DC was still first, but **Mississippi** took last place and has retained that last place ranking ever since. The state with the highest per capita personal income has changed to **Connecticut** in 1960, **Alaska** in 1970 and 1980, then back to Connecticut in 1990 and the years since then.

Of central interest in this analysis is change in state per capita personal income since 1973, the advent of the Human Capital Economy. The chart on this page shows this. This chart ranks state by the change in their per capita personal income as a percent of U.S. per capita personal income between 1973 and 2001.

Clearly there are winners and losers. In 24 states per capita personal income grew faster than did U.S. per capita personal income between 1973 and 2001. The largest gains were all states in New England: **Massachusetts** (+21.8 percent), **Connecticut** (+20.2 percent) and **New Hampshire** (+18.9 percent). The other three New England states--Vermont, Maine and Rhode Island--also experienced growth in state per capita personal income that exceeded the national average during this period.

In the remaining 27 states, per capita personal income increased more slowly than did U.S. per capita personal income between 1973 and 2001. The state that saw the largest decline--**North Dakota**--is the victim of a statistical fluke in that 1973 saw an unusual spike in its state per capita personal income. Thus comparing 2001 to 1973 shows a 32.7 percentage point decline in North Dakota's per capita personal income compared to that of the U.S.

Other states saw truer declines in state per capita personal income compared to the U.S. These were **Alaska** (-28.2 percent), **Hawaii** (-22.2 percent), **Nevada** (-18.5 percent), **Montana** (-17.0 percent), **Iowa** (-13.3 percent) and **South Dakota** (-11.0 percent). The dominance of western states in this list is inescapable.

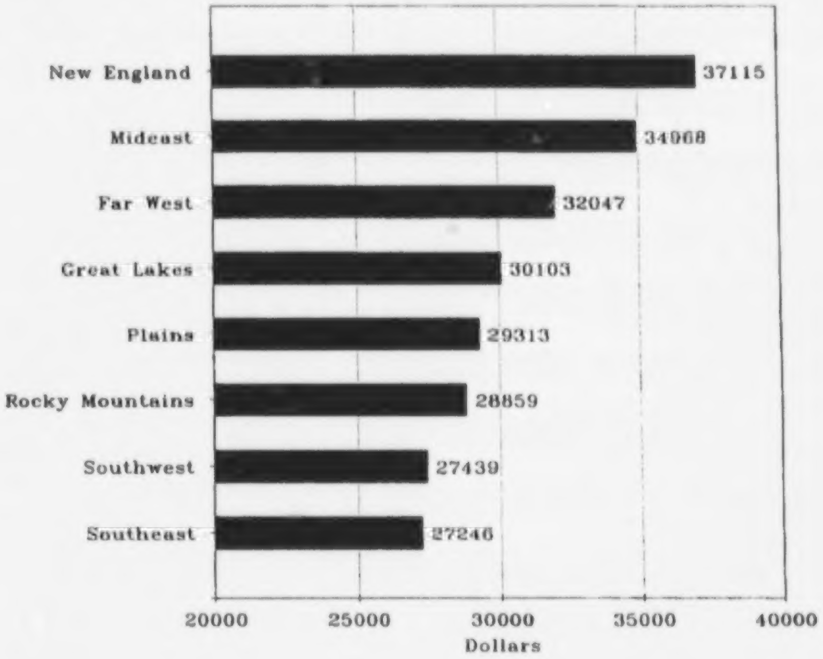
Regional Per Capita Personal Income

The state data are highly suggestive of strong regional shifts in the distribution of personal income and economic growth during the development of the Human Capital Economy. The charts on this page illustrate per capita personal income data, both its allocation in 2001 and its redistribution since 1973.

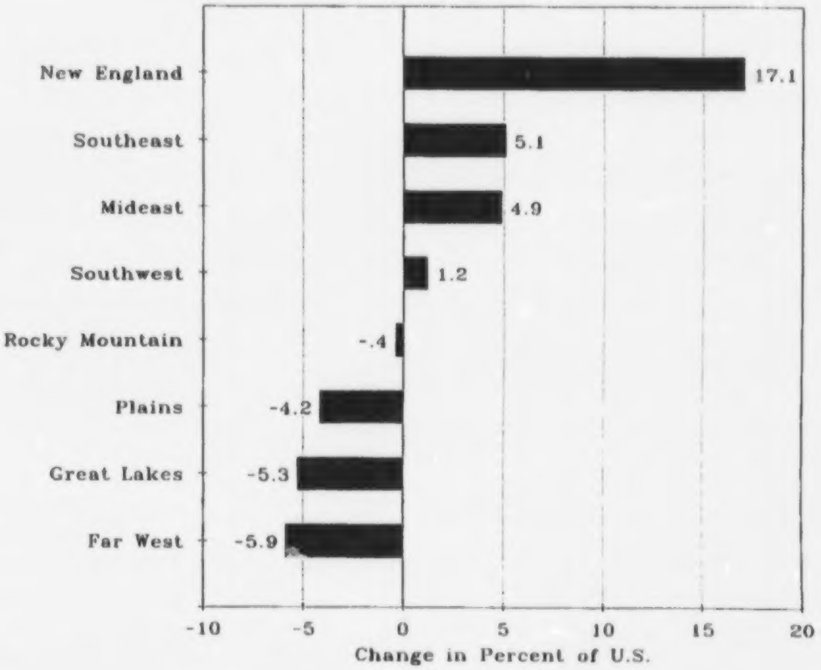
The first chart ranks the eight regions by their per capita personal income in 2001. Regional per capita personal income ranges from $27,246 in the Southeast states, to $37,115 in the New England states. Generally northern states have higher per capita personal incomes than do southern states.

The second chart shows the change in regional per capita personal income compared to that of the U.S. between 1973 and 2001--the Human Capital Economy. This chart shows a different picture than the first--growth faster than the national average has occurred mainly along the heavily urbanized east coast, with slower than average growth in states farther west. New England stands out by its extraordinarily fast growth during this period. The states with substantial manufacturing, extractive and agricultural economies have lagged in growth behind the other states during the last three decades.

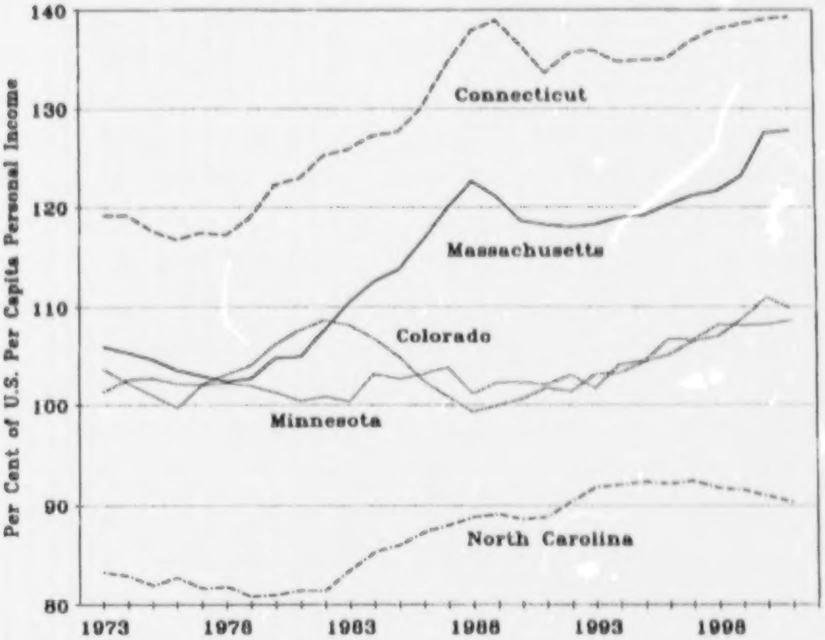
Per Capita Personal Income by Region
2001



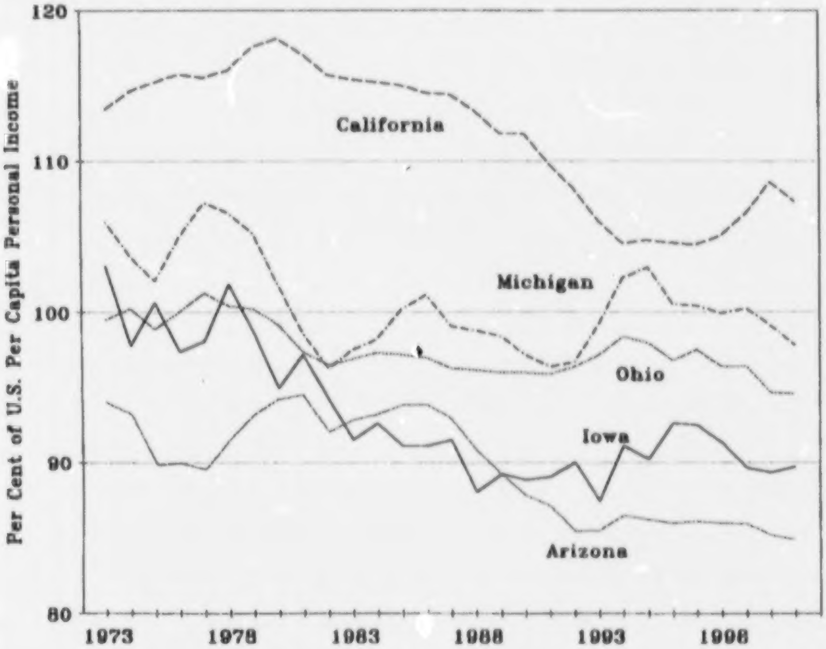
Change in Regional Per Capita Personal Income
Percent of U.S. between 1973 and 2001



Some States Where Per Capita Personal Income is Increasing Compared to U.S. Per Capita Personal Income 1973 to 2001



Some States Where Per Capita Personal Income is Decreasing Compared to U.S. Per Capita Personal Income 1973 to 2001



We illustrate what is happening to changes in state per capita personal income compared to changes in U.S. per capita personal income in ten of the 50 states in the two charts on this page.

The top chart shows five states (out of 24) where growth in state per capita personal income has been faster than the national growth during the years from 1973 through 2001.

- **Massachusetts** had the fastest growth in state per capita personal income between 1973 and 2001. It increased from 105.9 percent in 1973 to 127.7 percent by 2001, or by 21.8 percent.
- **Connecticut** had the second fastest growth, from 119.1 percent of U.S. per capita personal income in 1973 to 139.3 percent by 2001, or by 20.2 percent.
- **Colorado** had the sixth fastest increase in state per capita personal income compared to the rate for the U.S. It increased from 101.3 percent in 1973 to 109.8 percent by 2001, with most of this growth occurring after 1983.
- **North Carolina** had the tenth fastest increase compared to the U.S. State per capita personal income increased from 83.3 percent of the U.S. rate in 1973 to 90.3 percent by 2001.
- **Minnesota** had the 14th largest increase, from 103.6 percent of U.S. per capita personal income in 1973 to 108.6 percent by 2001, or by 5.0 percent.

The second chart on this page shows five states (out of 27) were growth in per capita personal income fell below the national growth rate between 1973 and 2001.

- **Iowa**'s state per capita personal income fell from 103.0 percent of the U.S. rate in 1973 to 89.7 percent by 2001, or by 13.3 percent.
- **Arizona**'s per capita personal income fell from 94.0 percent of

the U.S. rate in 1973 to 84.9 percent by 2001, or by 9.1 percent.

- **Michigan**'s per capita personal income fell from 105.9 percent of the U.S. rate in 1973 to 97.8 percent by 2001, a decline of 8.2 percent.
- **California**'s state per capita personal income fell from 113.4 percent of the U.S. rate in 1973 to 107.3 percent by 2001, a decline of 6.1 percent.
- **Ohio**'s per capita personal income fell from 99.5 percent of the national rate in 1973 to 94.6 percent by 2001, a decline of 5.0 percent.

Educational Attainment and State Per Capita Personal Income

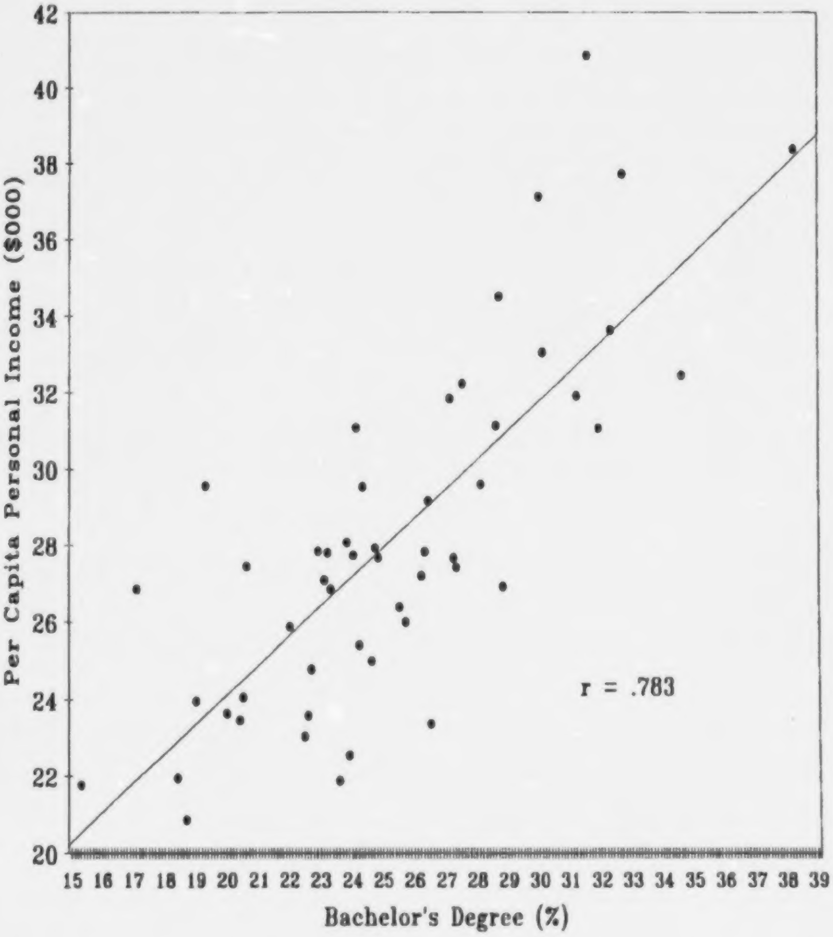
Another way to look at these same data is to relate state per capita personal income to educational attainment in each state. OPPORTUNITY did this for states in the February 2002 issue (#116) and for cities in the April 2002 issue (#118), both of which are available under Archives on our website.

In 2000 (the last year for which state educational attainment data have been reported), the correlation between state per capita personal income and the proportion of the population age 25 and over with at least a bachelor's degree was .783. (See scatter plot and regression line at right.) Across major American cities, the correlation between per capita personal income and the proportion of adults with at least a bachelor's degree was .789.

Other correlations with this measure of educational attainment were:

Poverty rate	-.405
Median household income	+.656
Employed/population ratio	+.333
Home ownership	-.491
Average annual pay	+.686
Doctors per 100,000 population	+.646

State Per Capita Personal Income by Proportion of Population Age 25 and Over with Bachelor's Degree 2000



In this analysis we are primarily interested in changes in state per capita personal income during the development of the Human Capital economy, since 1973. The analysis reported in February found that between 1989 and 2000 the correlation between state per capita personal income and the proportion of adults with at least a bachelor's degree strengthened, from .699 in 1989 to .783 in 2000. Moreover the slope of the regression line through these data points became more vertical during this period.

What this means is that during the 1990s growth in per capita personal income was greatest in those states with the greatest concentrations of college-educated adults, and least in other states with the weakest concentrations of college-educated adults.

Conclusion

Since 1973 the United States has entered the Human Capital Economy. During this period the educational attainment requirements of the labor force have grown faster than the production of college graduates.

Gradually the labor market has become under-supplied with college-educated workers, and over-supplied with workers with high school educations or less. This demand-supply imbalance has lead to substantial growth in real incomes for college-educated workers, and substantial real declines in incomes for those with high school educations or less. This has led to a redistribution of incomes, from the less well educated to the better educated since 1973.

The redistribution of incomes of individuals according to their educational attainment has affected men, women, whites, blacks, Hispanics and Asians. It has affected the distribution and redistribution of incomes of households and families, since these are merely aggregations of individuals. It has affected the distribution and redistribution of income in cities and states because these too are merely the aggregations of households and families. And ultimately it has affected our national income because we are a country of individuals, households and states.

The distribution and redistribution of per capita personal income across the states since 1973 is a direct result of the distribution and redistribution of college-educated workers who earn those incomes. The states with the largest concentrations of college-educated adults are prospering, while those with the weakest concentrations are stagnating and falling behind national growth in personal incomes.

Of course there is more to economic growth than the accumulation of human capital. But as our analysis of state and regional data make clear, states with prosperous pasts based on agriculture, manufacturing, mining and forestry have seen economic growth below the national average since 1973. Real growth in per capita personal income above the national average has occurred in those states with concentrations of college-educated workers.

This redistribution of personal income across the states according to the educational attainment of their labor forces has accelerated in the 1990s. States with above average rates of growth in per capita personal income are characterized by above-average educational attainment. States with below average growth in per capita personal income are characterized by below-average educational attainment.

States face choices about the acquisition of college graduates for their human capital economy jobs: grow their own talent or attract college graduates produced in other states. Either strategy works. But states have most control over educating their own citizens.

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Postsecondary Education OPPORTUNITY

The Environmental Scanning Research Letter of Opportunity for Postsecondary Education

Number 125 **www.postsecondary.org** **November 2002**

An editorial . . .

Time for a Fundamental Re-Evaluation of the Bad Policy Decisions of the 1990s

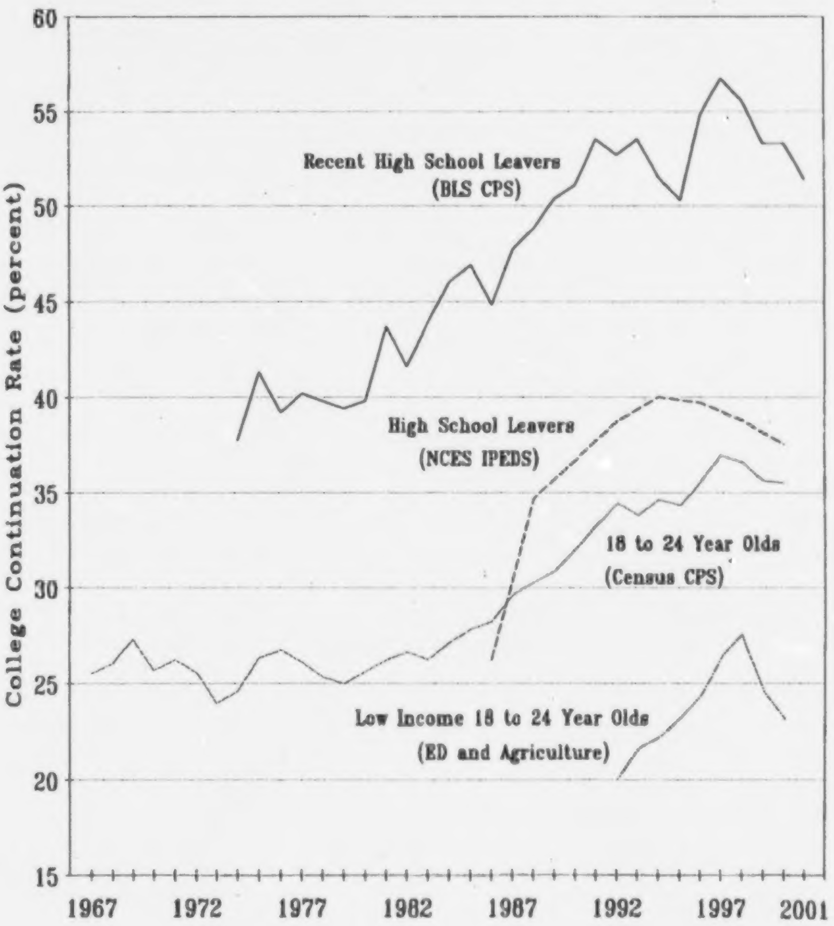
In January Congress will begin the reauthorization process of the Higher Education Act of 1965. This begins a time for evaluating how well existing programs are meeting student needs and where changes need to be made in federal programs to meet new or overlooked student needs.

It is our view that this reauthorization requires a fundamental reassessment of what we have done, what we have not done, and what needs to be done to restore growth in opportunity for higher education.

The consequences of the public policy choices made during the 1990s regarding higher educational opportunity are now inescapable and devastating. All broad measures of college participation rates after high school have been declining since the mid to late 1990s and have been at best stable over the last decade. This pattern of stagnation and decline is unprecedented following decades of growth in college participation.

These recent declines in educational participation must be viewed as unacceptable.

- They have occurred while the needs for better educated workers for the American labor force have been growing.
- The declines have occurred while we have revised welfare eligibility to make adults responsible for their own welfare.
- The declines have occurred when the population is diversifying and the children in the K-12 pipeline headed for higher education are growing poorer.
- These declines have occurred while citizen engagement and participation in civic processes remains vital to the democratic performance of government.



College Participation Rates
for Traditional College Age Students
1967 to 2001

These are the data indicators for college participation and what they are saying. (Note that participation rates are those enrolled divided by the total similarly defined population.)

- As reported by the Bureau of Labor Statistics, the college participation rate for recent high school leavers in 2001 was 51.4 percent, down from a peak of 56.7 percent in 1997 and down from 53.5 percent in 1991. These are data collected by the Census Bureau in the Current Population Survey.
- Based on data collected and reported by the National Center for Education Statistics, the college participation rate for 19 year olds was 37.5 percent in 2000, down from 38.8 percent in 1998, down from 39.7 in 1996 and down further from the peak of 40.0 percent in 1994.
- Based on data collected in the Current Population Survey the college participation rate for 18 to 24 year olds in 2000 was 35.5 percent, down from the peak of 36.9 percent reached in 1997.
- The college participation rate for students from low income families. calculated from Pell Grant recipient data and National School Lunch Program data show that the rate in 2000 was 23.1 percent, down from the peak of 27.5 percent in 1998 just below the 1995 rate of 23.2 percent.

The data come from different sources, with different definitions and collection methods and agencies. But they all say college continuation and participation rates have been declining since 1994-1998, and are back to where they were earlier in the 1990s. Over the last 40 years of available data, this has not happened in the last twenty-five years.

The new policy initiatives in the 1990s of federal and state policy makers have been to create new state merit scholarship programs, create federal Hope and Lifetime Learning tax credits and other tax incentives for prepaid tuition and college savings programs. These initiatives have simply missed altogether the well-defined unmet financial needs of students.

- The federal tax credits exclude people too poor to pay federal income taxes from program eligibility.
- The prepaid tuition and college savings programs are useful only to families with discretionary income available to set aside for future higher education purchases.
- The merit scholarship programs are strongly tilted toward the affluent, and when they are financed by lotteries such programs are paid for largely by the poor.

Who needs financial aid? Analyses based on data collected by states and by the National Postsecondary Student Aid Study consistently find that unmet financial need is largest for students who come from families with incomes below about $40,000 per year. Above about $60,000 per year students are receiving more aid than they need to finance their college budgets. They don't need the tax credits. They don't need the merit aid. They don't need incentives to save for future college expenses. But students from low and lower-middle income families do need financial aid to pay college attendance costs.

Why is the mal-distribution of financial aid resources a problem? This is a problem because of the changing demographics of the population to be served by higher education that bring more real financial need with them, and because the educational attainment requirements of the labor market and for economic development keep growing.

Forty years ago about seven percent of

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Mission Statement

This research letter is founded on two fundamental beliefs. First, sound public social policy requires accurate, current, independent, and focused information on the human condition. Second, education is essential to the development of human potential and resources for both private and public benefit. Therefore, the purpose of this research letter is to inform those who formulate, fund, and administer public policy and programs about the condition of and influences that affect postsecondary education opportunity for all Americans.

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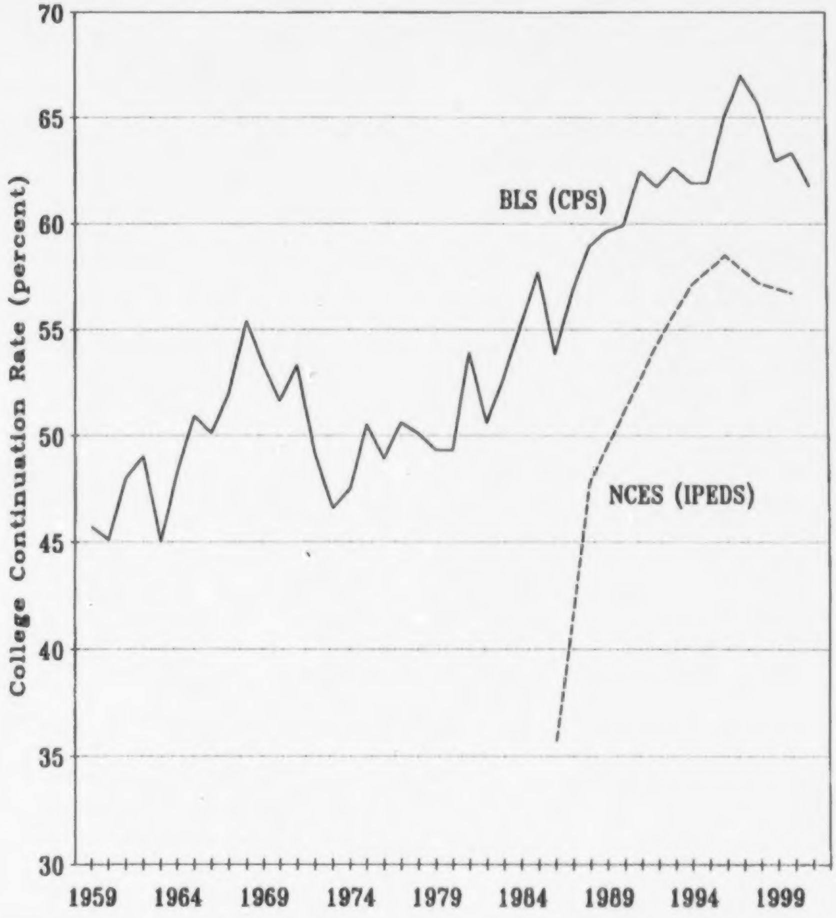
College Continuation Rates
for Recent High School Graduates
1959 to 2001



the high school graduates in the U.S. were minorities. Today it is about 30 percent, and projections based on students already born and in the K-12 pipeline headed toward higher education indicate that minorities will be 40 percent of all high school graduates within a decade. These minorities are replacing the shrinking share of the population that is white non-Hispanic. Their family incomes are less than half those of the white non-Hispanic populations they are replacing—about $29,000 for blacks and Hispanics compared to $63,000 for white non-Hispanics.

If minorities are to gain similar levels of education and training to the population they are replacing, then the large and growing financial barriers to higher education that they face must be addressed with adequate and appropriate financial aid. But during the 1990s these barriers grew because the federal and state policy initiatives largely avoided addressing financial needs of students. The initiatives instead were targeted at voters to meet the election needs of candidates for federal and state offices.

The mal-distribution of financial aid is also a problem because it does not address the growing needs for college-educated workers for the labor force and for economic development. Since the early 1970s, the labor force has been over-supplied with workers with a high school education or less, and under-supplied with workers with a college education or more. The real wages of workers with a high school education or less have been declining, while those of workers with college educations have been rising. This is a classic demand/supply imbalance condition.

In fact for most of the last 30 years the share of workers entering the labor force with a college degree has been flat. The economy needs fewer less-educated workers, and more better educated workers than higher education has produced since the early 1970s.

Reauthorization of the Higher Education Act will begin in earnest when the new Congress convenes in January. This is the time to review what we have done and what we have not done at the federal level. It is time to kill programs that have failed to expand higher educational opportunity and wasted precious resources, and to expand existing or create new programs that address known needs of students. This is the opportunity we have created once every six years to evaluate what needs to be done.

With the glaring failures--both commissions and omissions--of the 1990s now apparent, this reauthorization requires bolder visions and greater changes than we have attempted in the last several reauthorizations.

Challenges for Reauthorization

The main challenges that we see in this reauthorization cycle are:

- Maintaining national economic growth, and
- Adapting to changing demography.

The United States depends on sustained economic growth to fulfill the aspirations of its citizens. That growth both improves living standards for most people and effectively masks social problems of the rest. Economic growth sustains hope for a better future, even for those currently struggling with challenges in their lives. Lack of economic growth leads to divisive squabbling over the reallocation of resources, including criminal activity and civil unrest.

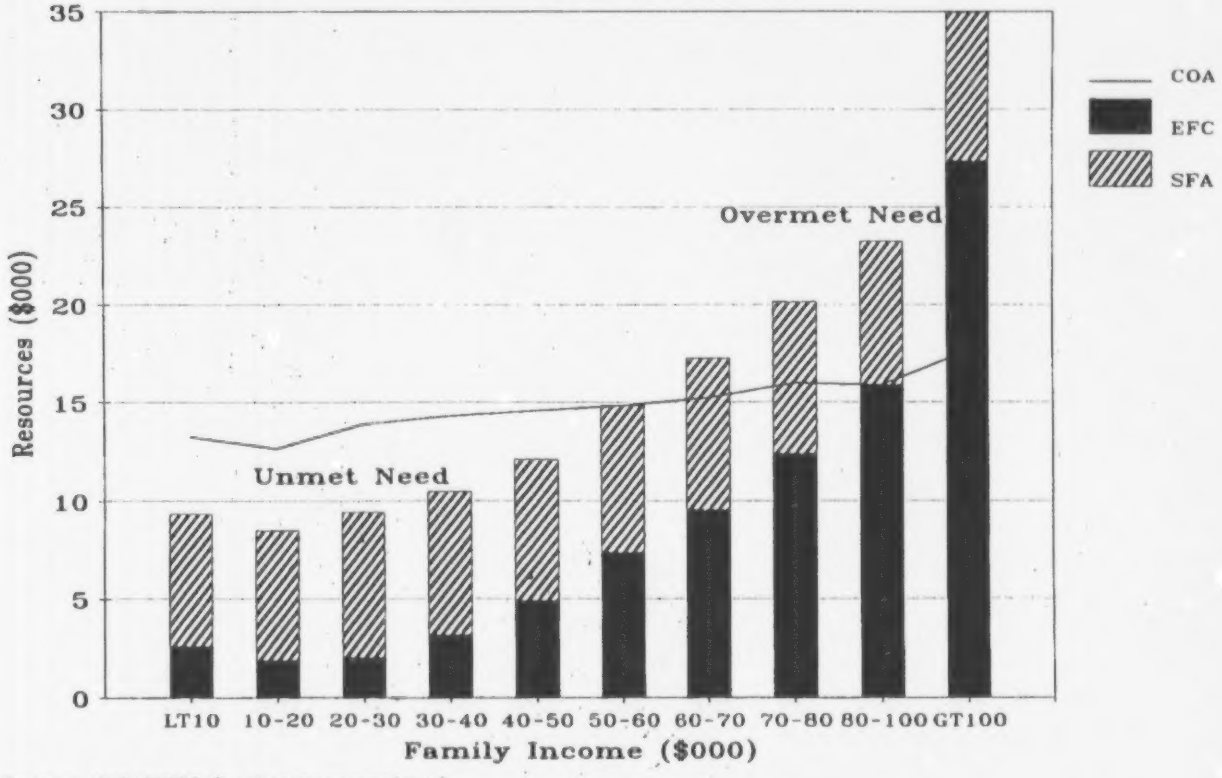
Our economic growth--currently interrupted by the recession phase of the business cycle--has produced enormous real gains in living standards in the U.S. during the 20th Century. This growth outpaced the rest of the countries of the world and has lead directly to our position of economic, military and political dominance in the world.

Calvin Coolidge once said "The business of America is business." While we have flirted with other social, political, environmental and other agendas, we are most seriously and persistently committed to brutal economic growth. We must maintain it to survive.

Since the early 1970s economic growth has been fueled by the productivity of college-educated workers--the era of the Human Capital Economy. Individuals with college degrees have seen significant real gains in their incomes in living standards. Those with high school educations or less have seen significant real declines in their incomes and living standards. Where college-educated individuals head families, families have prospered. Where these families are concentrated in cities and states, the economic welfare of cities and states have prospered.

For the last thirty years the labor market has been oversupplied with workers having high school educations or less, and undersupplied with college-educated workers. That needs to change to fuel economic growth. We need to shrink the share of workers with high school educations or less and expand the share of workers with college educations or more. The production of college

Financing College Attendance Costs for Full-Time, Full-Year Aided Dependent Undergraduates 1999-2000



Source: NPSAS2000 (preliminary analysis) graduates must be stimulated.

Moreover, the changing demography of the United States indicates that meeting this challenge of increasing the share of workers with college educations will require new approaches and efforts and unprecedented investment levels. A growing share of the children coming through the K-12 pipeline headed toward higher education live in families with very much lower incomes than those they are replacing.

- More are minorities with median family incomes less than half those of the families they are replacing.
- A growing share of school children qualified for subsidized school lunches during the prosperous 1990s.

More of the same old same old will not meet the demographic challenge of preparing these newer populations to replace the shrinking populations of the past. New efforts targeted on the needs of these newer populations are required. That means new programs with greater resources.

Environment for Reauthorization

The current thinking within the beltway in Washington, DC, seems to be status quo--no big changes, try to hold on to what exists. These are turbulent times politically and economically, and this is not the time to advance bold new initiatives.

This is, of course, the kind of thinking that produced the *status quo* reauthorization the last time--the same one that is now yielding unprecedented declines in college participation rates.

In our view the *status quo* is indefensible. The world will not pause while higher education leadership in Washington awaits the magic moment when the political risk-reward assessment is more favorable. In a sense this strategic judgement insults the democratic process. Some think we cannot trust the elected representatives of the people.

The economic and demographic forces driving change are relentless. Every hour of every day the great demographic and labor market changes described here are reshaping our future. The economy continues to demand better educated workers. And increasingly those workers are being produced by families with incomes much lower than those they are replacing. More of the same old same old will not produce more college graduates from the growing shares of the population with lower incomes.

Can the Republicans in Congress and the White House be trusted in this cycle of Reauthorization? Can a political party committed to reducing the size of government and cutting income and inheritance taxes for the wealthy be trusted to initiate bold new initiatives to expand higher educational opportunity for students from low income and minority families? Are the Republicans too busy waging wars to tend to the economic development agenda?

We don't know the answers to these questions. What we do know is that only Mr. Bush had serious and constructive proposals to add to the Pell Grant program when he was asking voters to choose him to be the next president in 2000. Mr. Gore offered nothing that addressed these issues.

Now President Bush seems to have forgotten his campaign promises since he was sworn into office. But maybe he was just waiting for the Reauthorization process to place them before Congress.

Our Proposal for a Pell Academic Challenge Grant

In 1999 we proposed a major addition to the Pell Grant program. We have called our proposal the Pell Academic Challenge Grant. This is a second-stage Pell Grant added to the existing foundation Pell Grant award. It could double the size of the current Pell Grant award for Pell-eligible students who complete a college preparatory curriculum in high school. It would be paid for jointly by federal and state or institutional funds on a matching grant basis. For every dollar put up by states or institutions, the federal government would match it with a federal dollar up to a level specified in law.

Students who did not complete a college prep curriculum in high school would be eligible for only the foundation grant for their postsecondary study. Students who completed the academic prep curriculum would be eligible for the Pell academic challenge grant in addition to the foundation grant.

The complete proposal for the Pell Academic Challenge Grant is available on our website at the bottom of the page at:

http://www.postsecondary.org/ti/ti_37.asp

This proposal has three objectives:

- To double the size of the Pell Grant maximum award for students with zero expected family contributions,
- To provide a strong incentive for high school students to take academic prep coursework that prepares them to be successful in college, and
- To engage states and institutions in helping their own low and lower-middle income students pay college attendance costs.

Whether this proposal is adopted in Reauthorization is less important than addressing serious academic preparation and financial aid funding problems faced by students now and in the future. It is a start.

Fact sheet . . .

What's Wrong with the Guys?

(Editor's note: The following data were assembled from back issues of OPPORTUNITY as background for the October 20 program on CBS 60 Minutes that addressed the growing education gap between males and females in our educational system.)

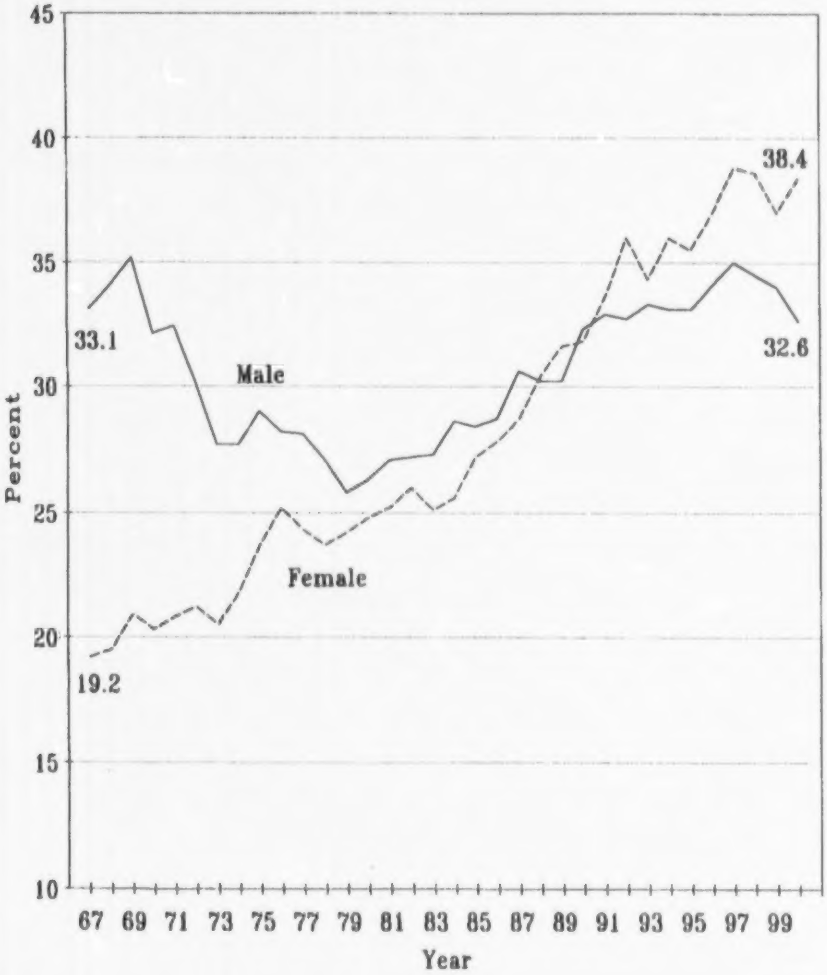
Over the last 30 years, nearly all of the progress in educational attainment has been achieved by females--almost none has been earned by males.

College Enrollment Indicators

College enrollment is voluntary. Only those who want to be in college matriculate and persist.

1. In the fall of 1999 there were 5,559,000 men and 7,122,000 women enrolled in college as undergraduates. In 1969 there were 4,008,000 men and 2,876,000 women undergraduate students enrolled in college. Between 1969 and 1999 the number of men undergraduates increased by 1,551,000 or by 39 percent. During this period the number of women undergraduates increased by 4,246,000 or by 148 percent. The number of women undergraduates surpassed the number of men in 1978. The share of college undergraduates that are men has declined from 58 percent in 1969 to 44 percent in 1999. (National Center for Education Statistics)

Percent of Population Age 18 to 24 Enrolled in College by Gender, 1967 to 2000

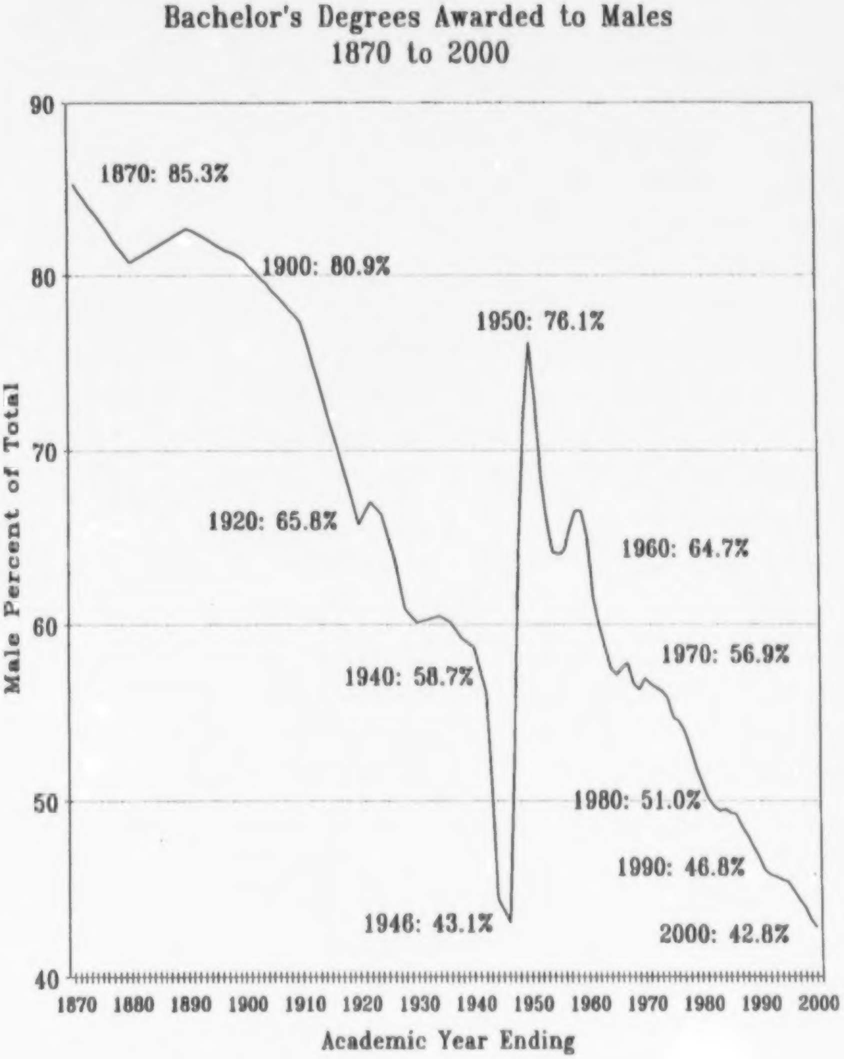


2. Between 1967 and 2000 the proportion of women ages 18 to 24 that were enrolled in college *doubled* from 19.2 to 38.4 percent. During this same period the proportion of men ages 18 to 24 that were enrolled in college *decreased* from 33.1 to 32.6 percent.
   - Between 1967 and 2000 the proportion of 18 to 24 year old women who were high school graduates increased from 76.6 to 84.1 percent, or by 7.5 percent. During this period the proportion of 18 to 24 year old men who were high school graduates increased from 74.2 to 79.6 percent, or by 5.4 percent.
   - Between 1967 and 2000 the share of 18 to 24 women high school graduates that were enrolled in college *increased* from 25.1 to 45.6 percent, an increase of 20.5 percent. For men the proportion of 18 to 24 year old high school graduates that were enrolled in college *decreased* from 44.7 to 40.9 percent, a decrease of 3.8 percent. (Census Bureau)

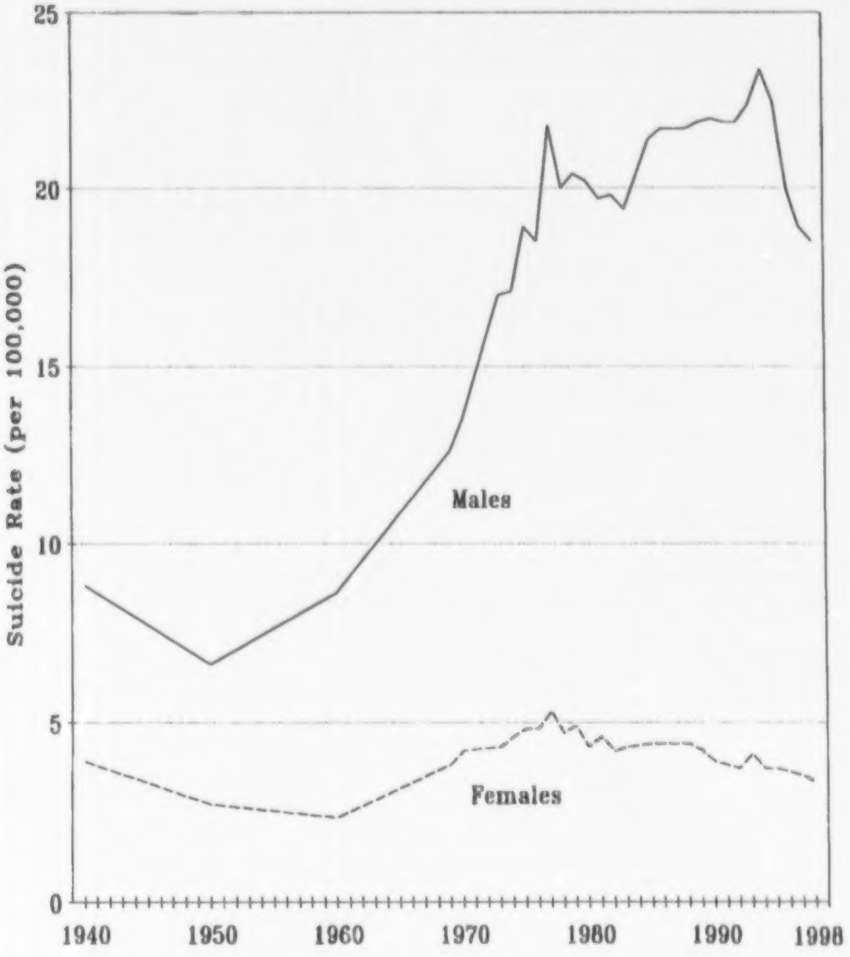
Indicators at College Graduation

The disparities in educational attainment are fully played out at the end of the education pipeline, at college graduation, where smaller differences at each stage in the education pipeline are fully magnified and become most apparent.

1. Between 1975 and 2000, the number of bachelor's degrees earned by men increased by 25,526 (from 504,841 to 530,367), or by 5 percent. During the same period the number of bachelor's degree earned by women increased by 289,416 (from 418,092 to 707,508), or by 69 percent. Of the total increase in bachelor's degrees awarded during this period (314,942), 8 percent was earned by males and 92 percent was earned by females. (National Center for Education Statistics)
2. In 1970 a majority of all bachelor's degrees were awarded to men in all 50 states. By 2000 a majority of bachelor's degrees were awarded to women in all 50 states. (National Center for Education Statistics)
3. In 2000 a majority of associate degrees are awarded to females in all 50 states. The same is true at the master's degree level, except for Utah. (National Center for Education Statistics)
4. A majority of the bachelor's degrees are now awarded to females in every racial/ethnic group of the population: whites, blacks, Hispanics, Asians and American Indians. (National Center for Education Statistics)
5. A majority of the bachelor's degrees are awarded to women in both public and private higher education. The gender shift from male to female has been most pronounced in private colleges and universities. (National Center for Education Statistics)
6. The gender shift has been occurring almost without interruption since 1870. The single interruption is the 30 years between 1940 and 1970 caused by World War II and its aftermath. (National Center for Education Statistics)



7. A tongue-in-cheek extrapolation of the long-term trend in the declining share of bachelor's degrees awarded to men indicates that the last male to earn a bachelor's degree will walk across the stage at final ceremonies in the year 2144. However, since the rate of decline in the male share has increased during the last three decades, the last male will probably receive his baccalaureate much sooner. (Postsecondary Education OPPORTUNITY)
8. Males represent a shrinking share (and females a growing share) of bachelor's degrees awarded in every major field of college study. The gains of females have been greatest in business, psychology, agriculture, biology/life sciences, communications, architecture and physical sciences. The gains by females have been least in mathematics, engineering, computer/information sciences. (National Center for Education Statistics)
9. In about another decade, a majority of first first-professional and then



Suicide Rates Ages 15 to 24 by Gender
1940 to 1998

doctorate degrees will be awarded to women if the trends of the last four decades continue. This has already occurred in some fields (pharmacy, veterinary medicine) and in some states.

Education Pipeline Indicators

1. *Special education:* In K-12 education boys are more likely to be diagnosed with special education needs than girls. Among secondary students, 73 percent of those with learning disabilities and 76 percent of those who are emotionally disturbed are boys. A majority of all other disabilities (speech, mental retardation, visual impairment, etc.) are boys—greater than their share of the population. (U.S. Department of Education)
2. *Attention deficit/hyperactivity disorder:* Boys are about two to three times more likely than girls to be diagnosed with ADHD. (internet)
3. *Enrollment below modal grade:* Boys are more likely than girls to be held back in school. In 2000 by age 15 to 17 years, 34.3 percent of boys were enrolled below modal grade for their age, compared to 25.8 percent of girls. (Census Bureau)
4. *High school dropouts:* In 2000 4.5 percent of boys 15 to 17 years dropped out of school, compared to 4.2 percent of girls. (Census Bureau)
5. *High school graduation:* Among 25 to 29 year olds, in 2000 86.7 percent of males and 89.4 percent of females have graduated from high school (or received a GED). Females surpassed males on this measure in 1984. (Census Bureau)
6. *College continuation for recent high school graduates:* In 2001 the rate for males was 59.8 percent compared to 63.6 percent for females. Females surpassed males on this measure in 1981. (Bureau of Labor Statistics)

7. *Bachelor's degree completion:* Among 25 to 29 year olds the 2001 rate for males was 27.9 percent compared to 30.1 percent for females. Females surpassed males in 1991. (Census Bureau)

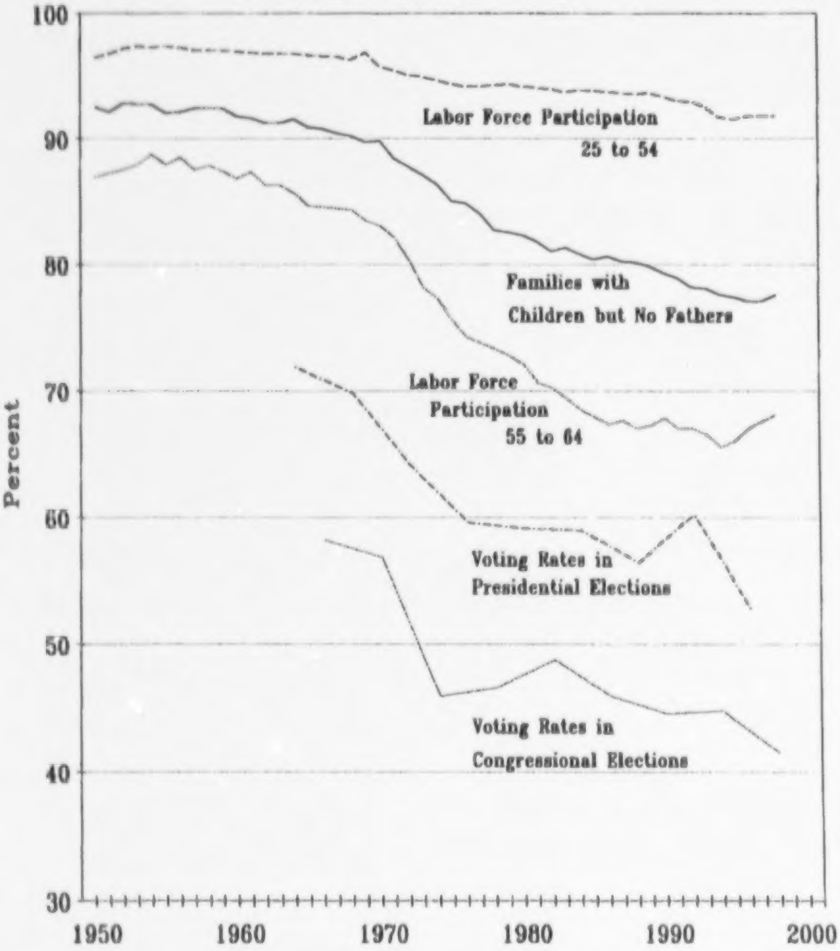
Test Scores

1. *NAEP reading:* Scores on the National Assessment of Educational Progress (NAEP) reading show that boys have consistently lagged girls by wide margins at ages 9, 13 and 17 years. Between 1971 and 1999 boys closed this gap at age 9, but the gap widened at ages 13 and 17 years. (National Center for Education Statistics)
2. *NAEP writing:* Boys also lag girls by wide margins on the NAEP writing assessment. Between 1984 and 1996 the gap widened among 4th and 8th graders, but narrowed very slightly among 11th graders. (National Center for Education Statistics)
3. *NAEP mathematics:* Boys and girls perform about equally on the NAEP math assessment. Between 1973 and 1999 boys and girls were

similar at ages 9 and 13, but in 1999 boys did better than girls at age 17. (National Center for Education Statistics)

4. *NAEP science:* Boys tend to do better than girls on the NAEP science assessment. However, girls have shown far more growth in science than boys between 1970 and 1999 at ages 9 and 13. At age 17 scores declined for both boys and girls between 1970 and 1999, but for boys by twice as much as scores declined for girls. (National Center for Education Statistics)
5. *SAT:* Between 1966-67 and 2000-01, the recentered mean SAT verbal scores for boys declined by 31 points compared to a 37 point decline for girls. During the same period the recentered mean SAT mathematics score for boys declined by 2 points while it increased by 3 points for girls. (The College Board)
6. *ACT:* The mean ACT composite score for boys increased by 0.1 points for boys, and by 0.6 points for girls between 1990 and 2001. The scores for girls increased more than they did for both on the ACT math, reading and science reasoning assessments, and increased by similar amounts on the ACT English assessment. (ACT)

Adult Male Disengagement Measures
1950 to 2000



Social Indicators

1. *Suicide:* Among 15 to 24 year olds, suicide rates are higher for males than for females. In 1940 male rates were about twice those for females. In 1990s male suicide rates have been about six times greater than rates for females. Between 1970 and 1998 male suicide rates increased by 37 percent but female suicide rates decreased by 21 percent. (National Center for Health Statistics)
2. *Incarceration:* Since about 1975 incarceration rates have gown very rapidly. U.S. rate of 707 prisoners per 100,000 population is now highest in the world. In 1970 the U.S. incarceration rate was 175 prisoners in jails and prisons per 100,000 population. This is a 90 percent male issue. (Bureau of Justice Statistics)
3. *Male labor force disengagement:* Since the early 1950s adult males have been disengaging from the labor force. This decline has been greatest for males 55 to 64 years old, since about 1970. (Bureau of Labor Statistics)
4. *Male disengagement from families:* Since early 1950s fewer children are being raised in families with a father present. Decline has been from about 93 percent in early 1950s to 78 percent by 2000. Proportion of children in families with biological father present is about two-thirds. (Census Bureau)
5. *Male disengagement from civic role:* Male voting rates have declined sharply since the mid-1960s. Between the 1964 and 2000 Presidential elections the male voting rate declined from 72 to 53 percent. The decline for men has been nearly twice the decline in female voting rates. Women now

vote at higher rates than do men—a reversal from the 1960s. (Census Bureau)

Demography

1. *Live births:* Every year in the United States (for the last 40 years) for every 100 girl babies born in the U.S. there are 105 male babies born. (National Center for Health Statistics)
2. Males remain a majority of the population through the college-age years, up until about age 30. They are about 51 percent of the population between 18 and 24. (Census Bureau)
3. *Associate degrees:* The male share of 2-year college degrees has declined from 57 to 40 percent between 1966 and 2000. (National Center for Education Statistics)
4. *Bachelor's degrees:* The male share of 4-year college degrees has declined from 57 percent in 1970 to 43 percent by 2000. (National Center for Education Statistics)
5. *Master's degrees:* The male share of master's degrees has declined from 60 percent in 1970 to 42 percent by 2000. (National Center for Education Statistics)
6. *First professional degrees:* The male share has declined from 95 percent in 1970 to 55 percent by 2000. (National Center for Education Statistics)
7. *Doctorate degrees:* The male share has declined from 87 percent in 1970 to 56 percent by 2000. (National Center for Education Statistics)

International Indicators

Education data gathered in industrialized countries finds that in most countries women are well ahead of men in education.

1. Secondary graduation rates in 1999 are higher for women than men in 16 countries, and higher for men than women in five countries.
2. Secondary graduates entry to degree courses in 1999 for those who have graduated from high school are higher for women than men in 15 countries, higher for men than women in five countries, and equal in two others.
3. Entry rates of age-group into degree courses were higher for women than men in 13 countries and higher for men than women in four countries. (Organization for Economic Cooperation and Development)

Economic Value of College Education

College is a better economic investment for men than it is for women.

1. A bachelor's degree adds about $1,266,000 to a male's lifetime income compared to the income of a male high school graduate. (Census Bureau)
2. A bachelor's degree adds about $650,000 to a female's lifetime income compared to the income of a female high school graduate. (Census Bureau)

Changing World Affects Men and Women Differently

1. *Urbanization:* Since 1790, population has grown steadily less rural and more urban, from 5 percent urban in 1790 to 75 percent by 1990. (Census Bureau)
2. *Changing industrial employment:* Since the end of WWII, the proportion of all jobs that are in goods producing industries (75% male employees) has shrunk from about 45 percent to 20 percent. The proportion of jobs in private service industries has grown from about 45 percent to 64 percent. A majority of these jobs are held by women. Employment opportunities for men have been shrinking while opportunities for women have been expanding. (Bureau of Labor Statistics)

Is This an Issue for Women?

1. Women college students have raised this gender imbalance issue as a problem on college campuses. They are concerned about the social health of campus life when they are many fewer men than women on college campuses. (reported by admissions deans, college presidents)
2. In 2000 there were about 177,000 more bachelor's degrees awarded to women than to men. (National Center for Education Statistics) That means that at least 177,000 college educated women will not find college educated men to marry.
3. Most women have men in their lives, as fathers, brothers, husbands and/or sons. When the males in their lives are struggling, women are affected too.
4. Black women feel this gender imbalance more acutely than do other women of other racial/ethnic groups because it has been a problem in the black community far longer than in other population groups. In 2000 black women earned twice as many bachelor's degrees as did black men. Women in other racial/ethnic groups will face the gender imbalance that black women face today in another decade or two if historical trends continue.

Our interest at OPPORTUNITY in the growing gender imbalance in higher education is to foster academic inquiry as to its causes. In the 30+ years that we have studied education enrollments we have marveled at the progress of females and become increasingly concerned about the lack of progress of males. We are always concerned about under-representation. But the male under-representation is far greater than that of the populations we normally focus on in these pages.

"I worked my way through college. You should too."

1964 to 2002

According to the Census Bureau, in October 2000 there were 15,493,000 college students. Of these 9,875,000 were employed, and 5,229,000 of these were employed full-time.

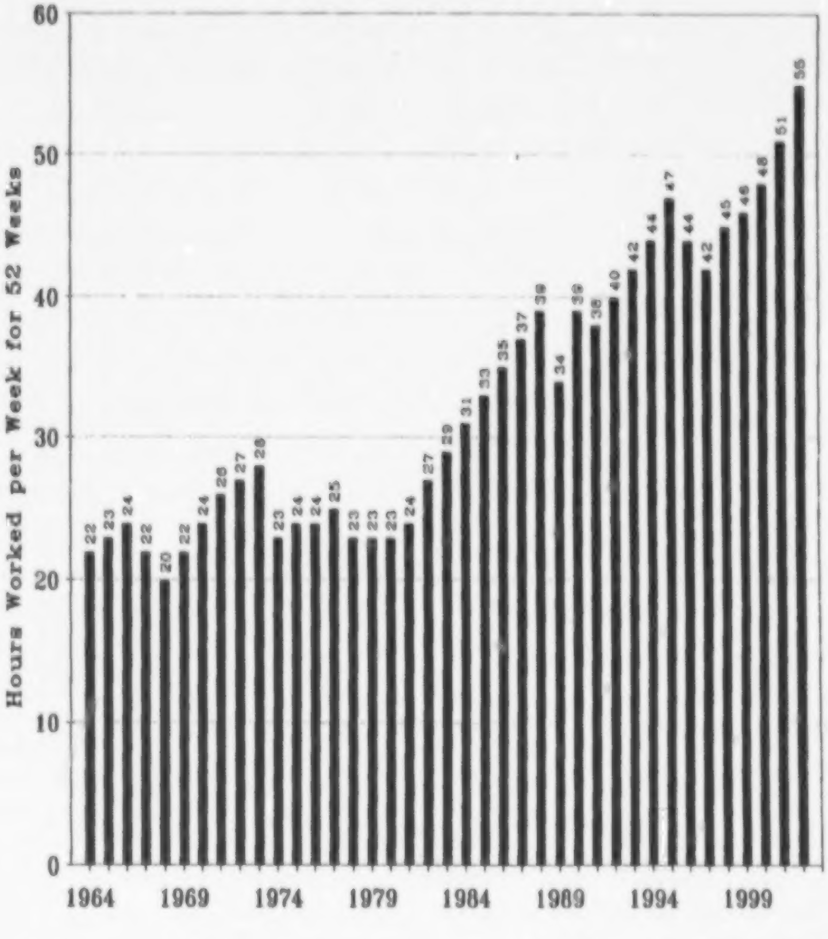
Sometime in the late 1980s, an old Washington legislator was listening to a budget request for student financial aid submitted by the Washington Higher Education Coordinating Board. From the accounts of those who were present, he reportedly said "I worked my way through college. You should too." In response the staff of the WAHECB prepared an analysis of the numbers of hours a student would have to work to pay their college expenses without financial aid.

The analysis that follows is our somewhat tongue-in-cheek version of that response. Our analyses assume the federal minimum wage less social security taxes and national average students budgets at public and private universities, 4-year colleges and 2-year colleges. Students work 52 weeks per year--no vacations.

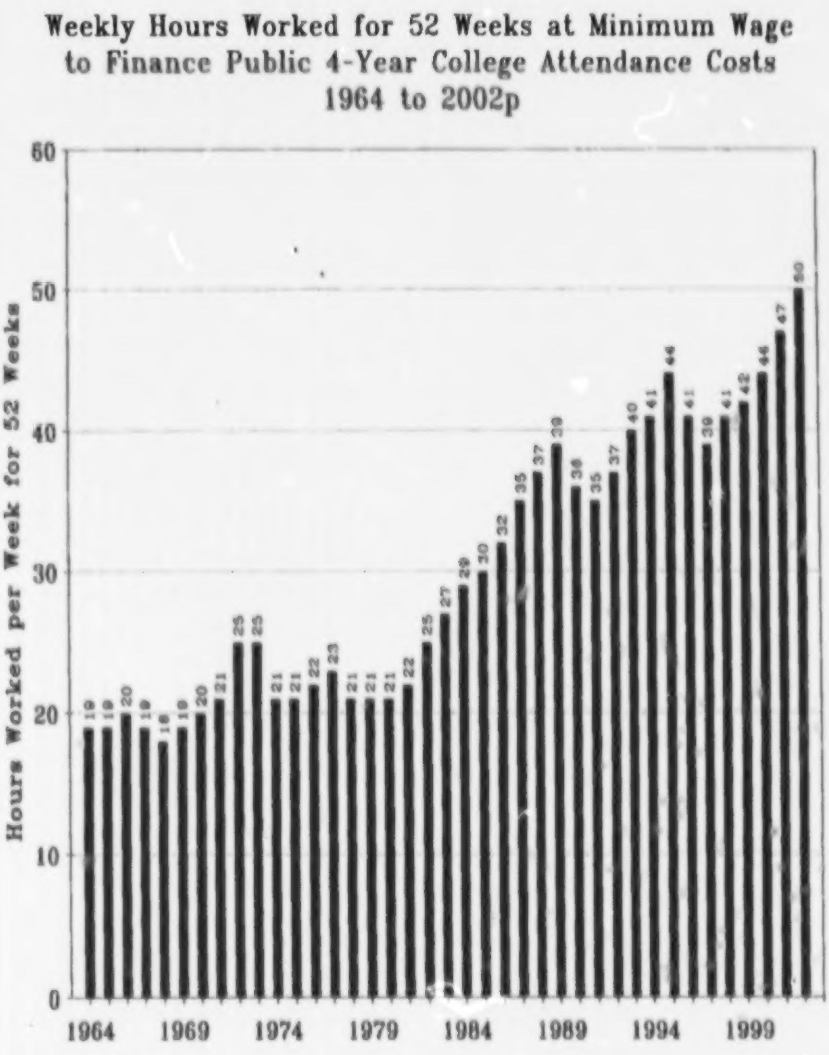
What our analysis shows is that to pay the costs of attending college full-time for nine months in 2002-03 students would have to work at one to four full-time jobs. (Remember there are only 168 hours in a week.)

- A public university undergraduate student would have to work 55 hours per week for 52 weeks.
- A public 4-year college undergraduate student would have to work 50 hours per week for 52 weeks.
- A community college student would have to work 42 hours per week for 52 weeks.
- An undergraduate attending an average cost private university would have to work 136 hours per week for 52 weeks.
- A student attending a private 4-year college would have to work 102 hours per week for 52 weeks.
- A student attending a private 2-year college would have to work 75 hours per week for 52 weeks.

Weekly Hours Worked for 52 Weeks at Minimum Wage to Finance Public University Attendance Costs 1964 to 2002p



And these data are just beginning to capture the very large tuition and fee increases being imposed on students as a result of the recent economic recession. State budgets are in terrible shape with projected deficits in the $40 to $50 billion range. Students of state budgets indicate that states will take years to work their ways out of



Weekly Hours Worked for 52 Weeks at Minimum Wage to Finance Public 4-Year College Attendance Costs 1964 to 2002p

current budget shortfalls. For the next several years public higher education funding will likely absorb a disproportionate share of state expenditures reductions. And, just as surely, tuitions will be increased in public institutions to offset state revenue declines to public colleges and universities.

College Student Employment

Employment is already a fact-of-life for most college students today. Most students are already working, and many are spending too much time working at jobs that curtail their academic performance and achievement.

In this analysis we focus on the hypothetical situation suggested by the old Washington legislator. Here we look at the number of hours that a college student would have to work to pay his or her way through college.

The period of this analysis spans the years from 1964-65 through 2002-03. This period covers the years when that old Washington legislator may have been in college himself, long before his higher education funding cutback votes caused public colleges to substantially raise their tuition and fee charges to students to offset the funding cutbacks he caused.

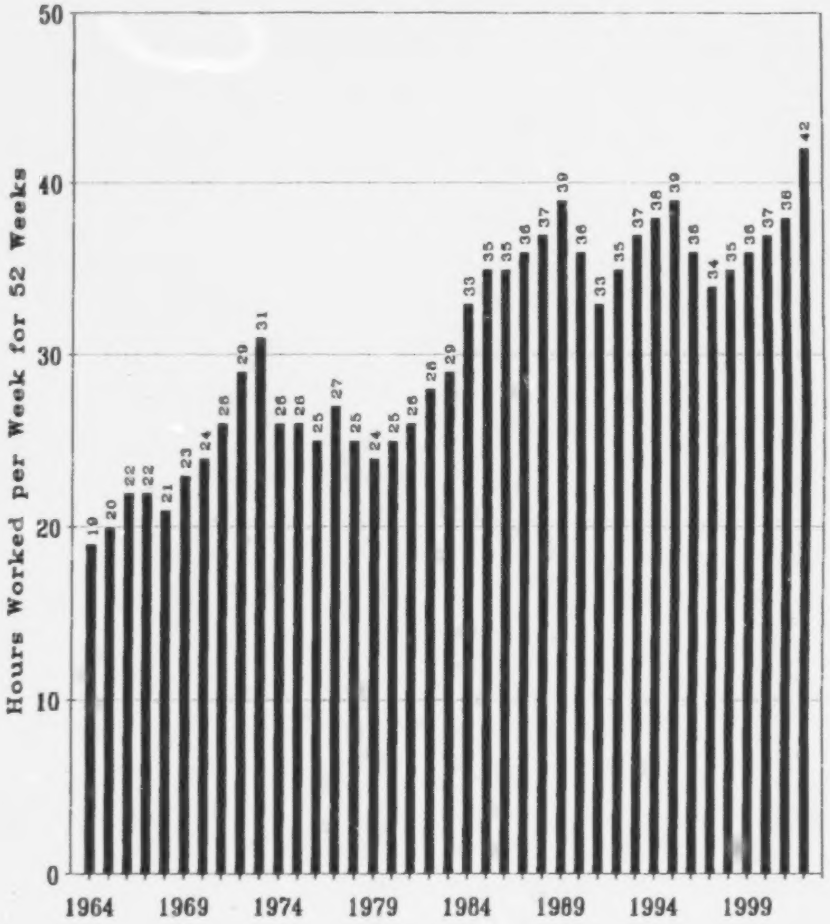
Obviously the college attendance cost situation faced by students today is fa different from that faced by students prior to about 1980. Until 1980 state investment in higher education enabled public institutions to hold tuition rates to what were in hindsight quite modest rates. Then beginning about 1980 states began reducing their investment effort in higher education (a OPPORTUNITY will report in a upcoming issue). Public institutions resorted to raising tuition and fe charges to students to offset losses in state support for higher education. I is a process that continues today.

During this period the federa minimum wage has been kept trul minimum. Moreover, Social Securit tax rates have taken an increasing bit out of that minimum wage. Thu between 1980 and 2002, while th minimum wage net of Social Securit taxes increased by 64 percent:

- Public university undergraduat attendance costs increased by 32 percent,
- Public 4-year college attendanc costs increased by 325 percent,
- Public community colleg attendance costs increased by 20 percent,
- Private university attendance cos increased by 434 percent,
- Private 4-year college attendan costs increased by 390 percent, ar
- Private 2-year college attendan costs increased by 333 percent.

College students and their famili have been truly squeezed by th growing gap between available wag and college attendance cost particularly those who want to try work their way without incurring d from education loans. For most challenge is clearly impossible.

Weekly Hours Worked for 52 Weeks at Minimum Wage to Finance Public 2-Year College Attendance Costs 1964 to 2002p



Data and Analysis

Our analysis here is hypothetical: What would it take if one tried to work his or her way through college? How many hours per week would be required to net enough after Social Security taxes were deducted to pay college attendance costs for nine months of full-time study at an average cost public or private 2-year or 4-year college or university?

We assume minimum wage because college students lack skills (although many have experience from earlier jobs) required for better paying jobs available in the economy. Presumably that is why they are in college--to get those skills so they can get the better paying jobs. At least that is what they say in the annual UCLA survey of American college freshmen.

Our quantitative analysis is detailed in a spreadsheet available on our website accompanying the archived version of this article at:

www.postsecondary.org/r1/r1_02.asp

The basic data and calculations by year and institutional type and control are detailed in the six worksheets.

Public Universities

The chart on page 11 shows the number of hours an undergraduate student would have to work each week for 52 weeks to be able to pay college attendance costs from earnings between 1964 and 2002. Over the period shown, the number of hours rose from 22 in 1964 to 55 by 2002.

In 2002-03 the undergraduate student budget for nine months of full-time study is $13,779. The current federal minimum wage is $5.15 per hour, with 6.2 percent taken off for OASDI taxes (Social Security), leaving $4.83 per hour available for college. Thus the student would have to work 2852 hours at a net $4.83 per hour to accumulate $13,779. If the student worked 52 weeks per year, the average annual hours worked would be 55 hours per week. (Note that the Bureau of Labor Statistics considers 35 hours per week to be a full-time job.)

As shown in the chart on page 11, an undergraduate could have supported him or herself in college at about 22 hours per week between 1964 and 1981. But after 1981 the hours required suddenly began to grow, steadily and sharply, to 55 hours per week by 2002. This growth corresponds to the cost-shift in the financing of public higher education that began about 1980 and continues today. As the cost of higher education have been shifted from state taxpayers to students, and the federal minimum wage has not kept up with this cost-shift, the number of hours required has more than doubled.

If certain public policy choices had been made, the number of hours required to finance an average cost public university education from earnings need not have risen as much as it did. These choices are:

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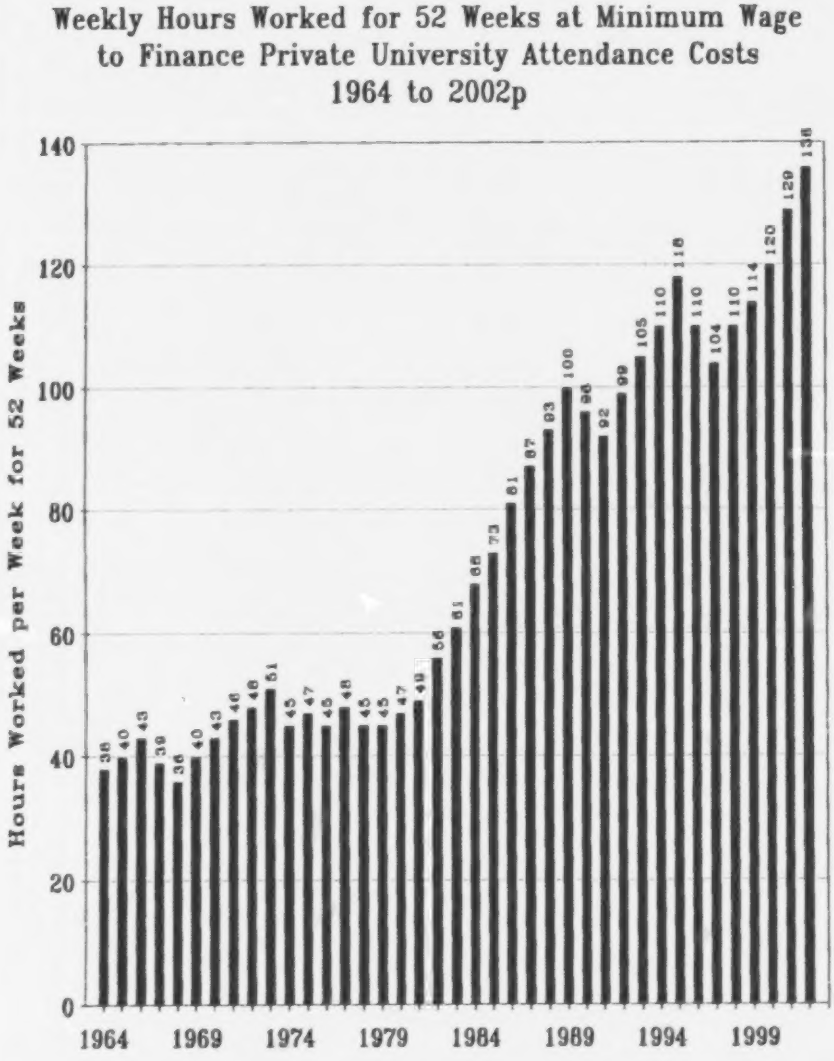


- Restore state appropriations to public institutions, and/or to
- Reduce the payroll tax on the hourly earnings of college students, and/or to
- Increase the federal minimum wage, probably by at least doubling it.

But none of these things happened. And so the number of hours required to finance a year of average cost public university education increased from 24 hours in 1981-82 to 55 hours by 2002-03. The recent sharp growth is likely to continue for several years as state budget deficits produce further appropriations reductions for public institutions and tuition charges to students are increased to partially offset losses in state revenue support.

Public 4-Year Colleges

The chart on page 12 shows the number of hours a student would have to work each week for 52 weeks to finance a year of full-time study at an average cost public 4-year college. In 1964 the student could have done so on 19 hours per week, but by 2002 this had risen to 50 hours per week. This is about 1.4 full-time jobs, while also enrolled in college full-time.

The data for the calculation for the current 2002-03 academic year are as follows. The national average nine month student budget for a public 4-year college is $12,515. At a net available minimum wage of $4.83 per hour (after payroll taxes), the student would have to work 2591 hours. Over 52 weeks this averages out to 50 hours per week.

There are no vacations in this regime. If the student wants to take a two week vacation the number of hours worked for 50 weeks rises to 52. But if the student can get a $7 per hour job at Wendy's then the number of hours required drops to 37 hours per week.

In this sensitivity analysis the hourly value of labor is very important. The suppression of the minimum wage drives up the number of hours required to meet earnings goals to finance college attendance costs.

As shown in the chart on page 12, a student need only work about 20 hours per week to finance his or her college budget from 1964 though 1981. But after 1981 the cost-shift from state taxpayers to student tuition more than doubled the number of hours required by 2002.

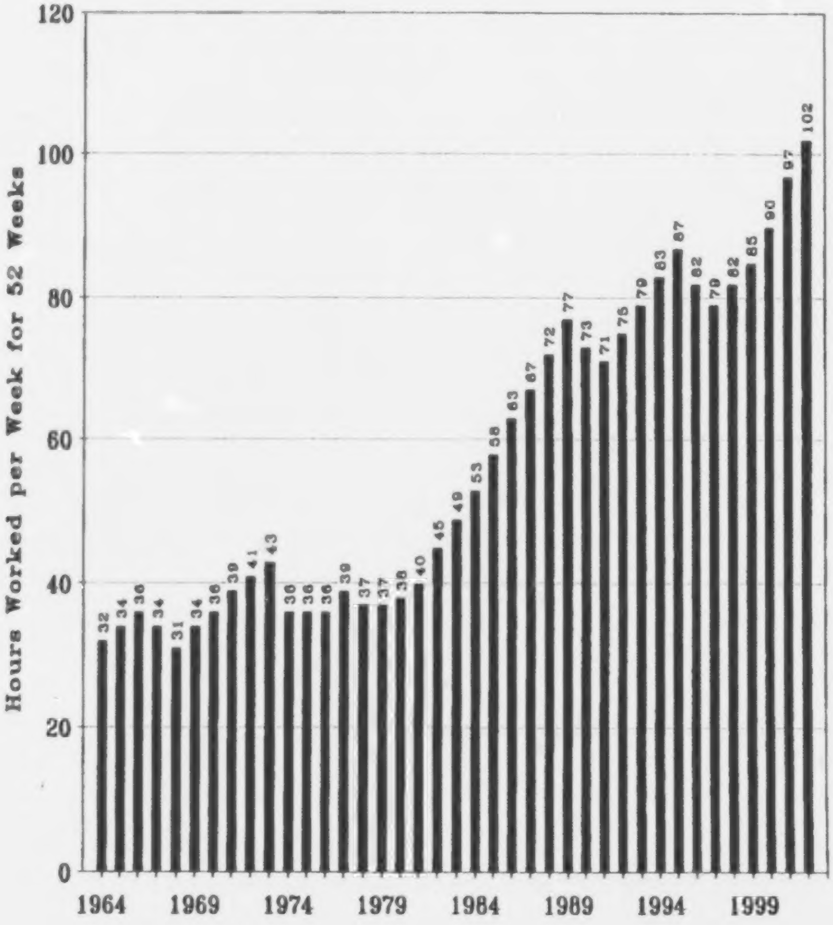
Public 2-Year Colleges

The chart on page 13 shows the number of hours required to self-finance an academic year of full-time study at an average cost public 2-year college. In 1964 it was 19 hours, but by 2002 it had risen to 42. While this is less than the number of hours required at any other type of college or university, it is still seven hours beyond a full-time 35 hour per week job.

The data for this calculation are as

follows. In 2002-03 the national average college budget for a student attending a public 2-year college was $10,458. At a net hourly wage of $4.83 a student would have to work 2165 hours to finance these costs from earnings. Working 52 weeks per year the student would have to average 42 hours per week.

There are no vacations here either. But if the student wanted two weeks off then he or she would have to work 43 hours per week. Or if the student got a job that netted $8.00 per hour then the student would have to average only 25 hours per week for 52 weeks. There are choices and options available, but all depend on the availability of jobs. During the recent recession many of these jobs were not available at all, which is why many laid-off workers have returned to community colleges for job skill upgrades.


Weekly Hours Worked for 52 Weeks at Minimum Wage to Finance Private 4-Year College Attendance Costs 1964 to 2002p

Private Universities

The chart on page 14 shows the number of hours a student would have to work at minimum wage for 52 weeks to finance nine-months of full-time study at an average cost private university. The hours reach a staggering 136 hours per week--the equivalent of 3.9 full-time jobs. And remember there are only 168 hours in a week.

The data for this calculation for 2002-03 are as follows. The national average undergraduate student budget for a private university is $34,093. At the available minimum wage of $4.83 per hour a student would have to work 7058 hours to finance this budget from earnings. (There are only 8760 hours in a year.) Over 52 weeks the student would have to work 136 hours per week.

Back in 1964-65 the student would have had to work *only* 38 hours per week at the then minimum wage less payroll taxes to earn enough to work his or her way through college.

Here the run-up in working hours--which reflects the run-up in the prices charged students by private universities--is not justified by reductions in state appropriations. Private institutions do not receive state funding. Rather the price escalation in private higher education after 1981 was caused by faculty compensation increases exceeding those in public institutions. This was reported in some detail in OPPORTUNITY #59 (May 1997) "Are We Moving Toward Two Classes of Opportunity?" by David Berg. This analysis is available to subscribers for downloading from our website under Archives.

Private 4-Year Colleges

The chart on this page shows that a student would have to work 102 hours per week to finance this year's national average student budget for nine months of full-time study at an average cost private 4-year college. Back in 1964-65 the student would have had to work only 32 hours per week (for 52 weeks) to accomplish the same end.

Here are the numbers. For 2002-03 the national average cost of attendance is $25,655. At an available $4.83 per hour minimum wage, a student would have to work 5311 hours to accumulate $25,655. If the student worked 52 weeks per year he or she would have to average 102 hours per week to work his or her way through college.

Back in 1964-65 the student would have had to work 32 hours per week at the then minimum wage to work his or her way through college.

Private 2-Year Colleges

Although this issue lacks space to show the chart for private 2-year colleges, the chart is available on the archived version of this article on our website. So too is the spreadsheet that contains the data.

For 2002-03 the national average student budget for nine months of full-time study at a private 2-year college is $18,861. At the available minimum wage this would require 3904 hours which, if spread out over 52 weeks would require 75 hours per week. In 1963-65 the student could have worked just 27 hours per week at the then minimum wage for 52 weeks to finance his or her year in college strictly from earnings.

Summary

This has been a slightly tongue-in-cheek analysis of what a student would have to do to work his or her way through college. It is prompted by the badly outdated opinion that "I worked my way through college. You should too." It can't be done today, although before 1980 it could have.

The problem for students in public institutions is the cost-shift from taxpayers to students that began around 1980. Quite suddenly and without precedent, the share of costs of higher education borne by students began to rise and continues to do so today amidst state budget problems. Raising tuition charges to students has been the public institution answer. Private institutions have viewed this as an opportunity to increase faculty compensation.

Clearly students can no longer earn what they need to finance their college budgets. This makes careful public attention to the financial aid system all the more important. Unfortunately, that attention has not been given for more than a decade.

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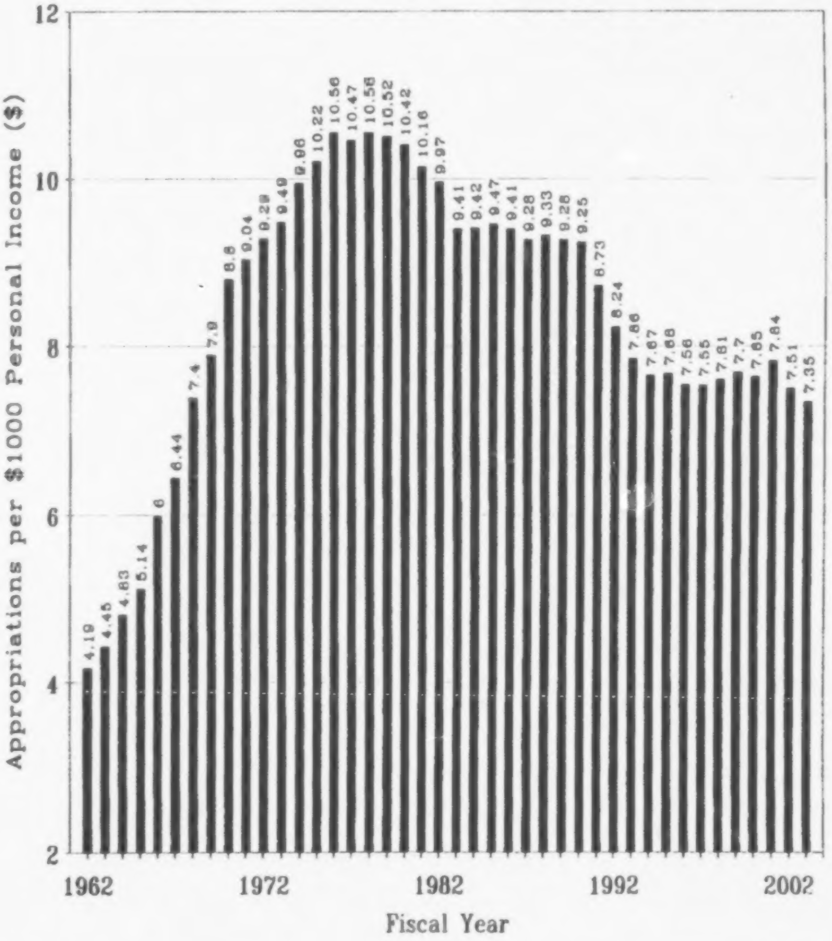
Postsecondary Education
OPPORTUNITY
The Environmental Scanning Research Letter of Opportunity for Postsecondary Education

Number 126 www.postsecondary.org **December 2002**

State Investment Effort in Higher Education FY1962 to FY2003

Appropriations of State Tax Funds for Operating Expenses of Higher Education per $1000 of Personal Income FY1962 to FY2003



States continued to ratchet downward their investment effort in higher education for FY2003. The sharp reductions in state higher education investment efforts in the economic recessions of the early 1980s and again in the early 1990s are once again in place during the current economic pause. Even though personal incomes rose in the states, the share allocated to higher education shrank.

For FY2003--the current fiscal year--states appropriated $7.35 per $1000 of state personal income for higher education from their tax funds. This was down from $7.51 per $1000 of personal income in FY2002 and $7.84 in FY2001.

The FY2003 effort of $7.35 was the weakest state investment effort since FY1967. Generally state investment effort peaked in the late 1970s at around $10.50 per $1000 of personal income. Then during recession periods states have reduced their higher education investment effort. They are doing this again now and will continue to do so for the next several years based on past experience and current state budget problems.

These funding cutbacks by states have certain predictable outcomes:

- Tuition rates will go up in state funded colleges to partially offset losses in state financial support,
- Nearly all states will do nothing to protect financially needy students from these price increases, and several are making affordability worse by cutting state financial aid funding, and
- The effects of these price increases will be felt mainly by those from lowest family income backgrounds, who are also hit hardest by job losses during economic recessions.

The general state budget problem for higher education (and everything else in state budgets) is that Medicaid and corrections have been crowding out other budget priorities for at least the last four decades.

The current and specific budget problem for higher education is the general problem exacerbated by the recession, state tax cuts enacted during the 1990s, and the inability to find ways for states to tax internet sales and privately-provided services. We will return to these underlying causes of state budget problems for higher education later in this analysis.

Experience from the economic recessions of the early 1980s and early 1990s suggests that state funding effort for higher education will deteriorate for about five years in the current ratcheting downward cycle. Since FY2003 is only the second year of the current ratcheting downward, the next three fiscal years promise to be very difficult ones for public higher education.

In fact recent reports from the National Governors Association and the National Association of State Budget Officers suggest states may be in the worst shape they have been in since World War II. Many pressing state budget problems were buried until after the November elections and are only now becoming clearer. They suggest projected state budget shortfalls in the $40 to $50 billion range.

Based on past experience, public higher education funding will share a disproportionate share of the burden of resolving these shortfalls. And, within higher education, students from low income families will be asked as they have for the last twenty-five years to carry a disproportionate share of the costs passed back to students through higher tuition charges.

Data and Analysis

This analysis is based on a straightforward juxtaposition of two data sets. The first data set is called the Grapevine data and it is state tax fund appropriations for higher education. The second data set is state personal income and is compiled (and frequently revised) by the Bureau of Economic Analysis. Merging these data sets provides state tax fund appropriations for higher education per $1000 of state personal income.

Additionally, we have examined and report data on the current condition of state budgets reported by the National Governors Association and the National Association of State Budget Officers.

The Grapevine data have been compiled and reported since FY1961 by the faculty, staff and graduate students at the Center for the Study of Educational Policy at Illinois State University. M.M. Chambers started this tabulation and his successors have been Ed Hines and now Jim Palmer. The website for the Grapevine data is:
www.coe.ilstu/grapevine

Since its inception, the Grapevine data have reported state tax fund appropriations for higher education, including universities, colleges, community colleges and state higher education agencies. The data are defined as follows:

- Appropriations, not actual expenditures.
- Sums appropriated for annual operating expenses.

Included are appropriations for:

- State aid to local public community colleges and for operation of state-supported community colleges, and for vocational-technical two-year colleges or institutes that are predominantly for high school graduates and adult students.
- Statewide coordinating boards or governing boards, either for board expenses or for allocation by the board to other institutions or both.
- State scholarships or for other financial aid.
- higher education through other state agencies, such as for faculty

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Mission Statement

This research letter is founded on two fundamental beliefs. First, sound public social policy requires accurate, current, independent, and focused information on the human condition. Second, education is essential to the development of human potential and resources for both private and public benefit. Therefore, the purpose of this research letter is to inform those who formulate, fund, and administer public policy and programs about the condition of and influences that affect postsecondary education opportunity for all Americans.

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fringe benefits, certain funds for medical and health education.

- Private higher education institutions at all levels.

Excluded from these tabulations are:

- Appropriations for capital outlays and debt service.
- Appropriations of money derived from federal sources, student fees, auxiliary enterprises and other non-tax sources.

Over the years the Grapevine state funding effort has added local tax funding for higher education. In 25 states local property taxes provide financial support for public community colleges. Grapevine has reported these data for these 25 states through FY2002.

Other state financing issues such as lottery proceeds and tobacco settlements are not yet addressed in the Grapevine tabulations.

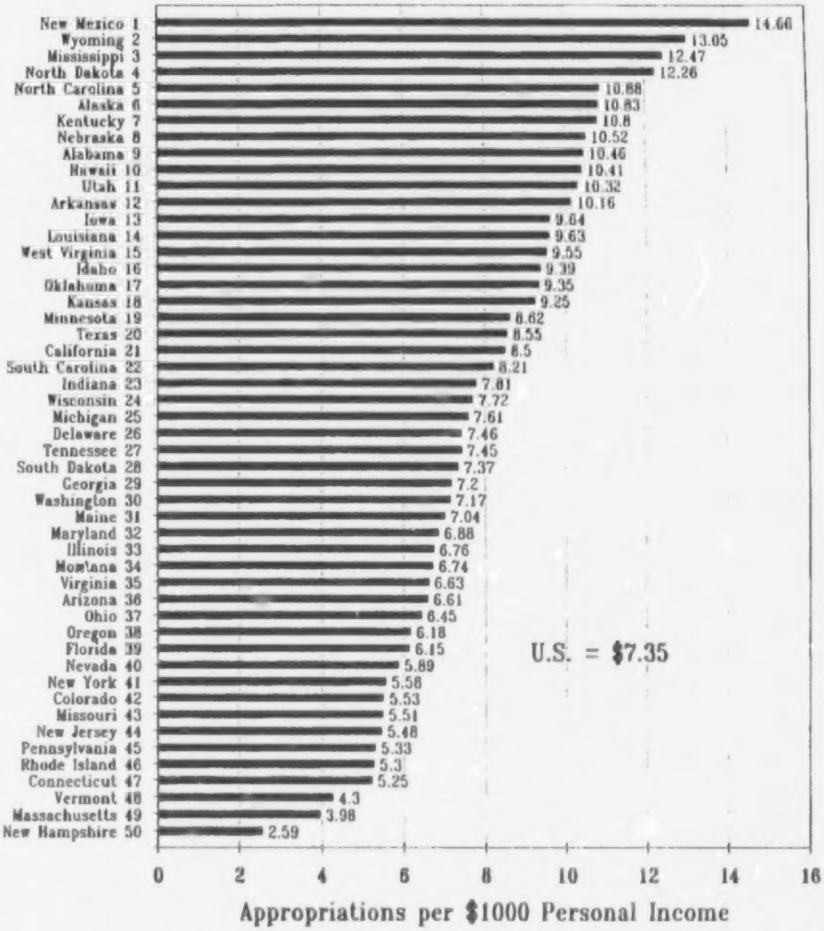
State personal income is compiled and reported (and frequently revised) by the Bureau of Economic Analysis. These data are available from the BEA website at:

www.bea.doc.gov

We use these data as the tax base for state investment in higher education. We do not use "budget shares" analysis that looks at higher education's share of state government expenditures. Budget shares is the preferred method of analysis by the National Conference of State Legislatures, National Association of State Budget Officers, National Governors Association and other organizations.

Budget shares overlooks the tax effort in states. Our method combines the chosen tax effort of states with state budget allocation choices. We think this represents a more complete view of the resources available to states to invest in higher education.

Appropriations of State Tax Funds for Operating Expenses of Higher Education per $1000 of Personal Income FY2003



All of the data that we have used in our analysis is available for examination in a single large Excel workbook available on our website on the Spreadsheets page at:

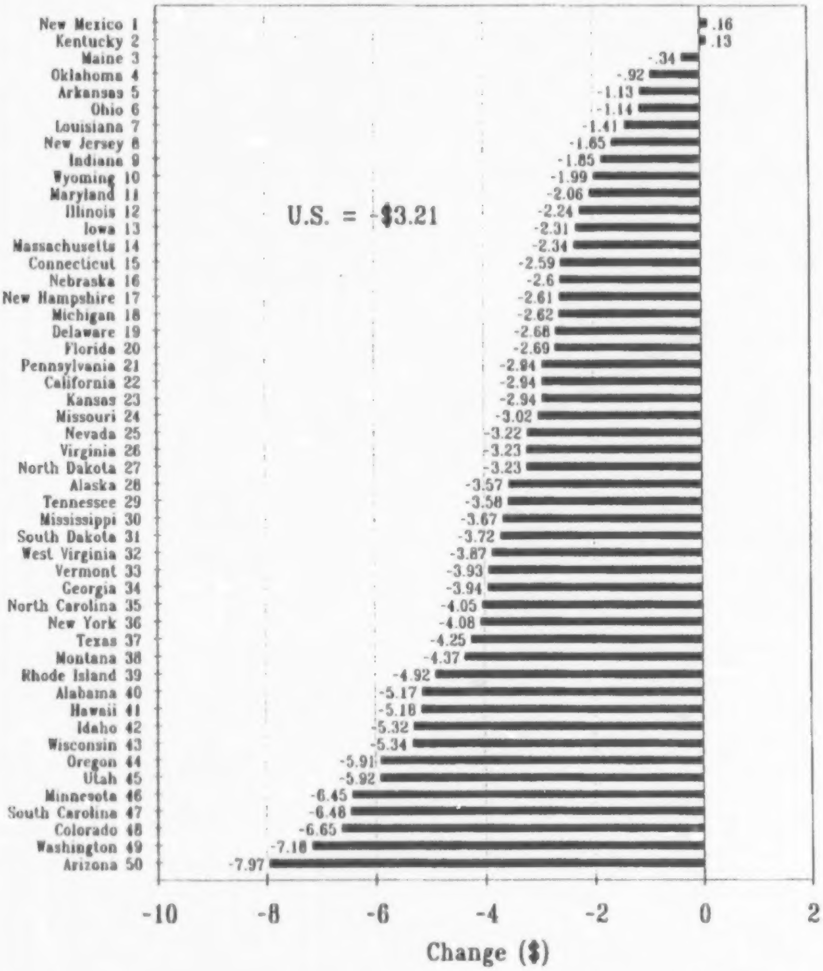
www.postsecondary.org/pr/pr_03.asp

FY2003 Appropriations

For FY2003 the 50 states appropriated $63,647,612,000 for higher education operations from state tax funds. For CY2001 personal income in the 50 states totaled $8,655,297,000,000. Thus, states appropriated $7.35 of each $1000 of personal income for the operations of higher education.

Across the 50 states tax fund appropriations for higher education ranged from $2.59 per $1000 of state personal income in **New Hampshire** to $14.66 in **New Mexico**. Although New Mexico's tax effort in support of higher education was nearly 5.7 times greater than that of New Hampshire, much of this difference is attributable to differing roles private higher education institutions play across the states. Of course New Hampshire voters are well-known for their public

Change In State Tax Fund Appropriations per $1000 of State Personal Income between FY1978 and FY2003



stinginess too.

Between FY2002 and FY2003 state appropriations for higher education increased by $742,553,000, or by 1.2 percent. Between CY2000 and CY2001 personal income increased by $278,657,000,000 or by 3.3 percent. Thus, even though resources available to states to fund higher education increased by 3.3 percent, states chose to increase appropriations to higher education by just 1.2 percent. So state tax fund appropriations for higher education decreased from $7.51 in FY2002 to $7.35 in FY2003.

Similarly between FY2001 and FY2002 state tax fund appropriations for higher education increased by 3.4 percent. But between CY2000 and CY2001 personal income increased by 8.0 percent. As a result the average state investment effort in higher education declined from $7.84 in FY2001 to $7.51 in FY2002.

The above pattern for the last two fiscal years will more than likely continue for the next several years. State personal income will grow faster than state tax fund appropriations for higher education. So state tax fund appropriations for higher education per $1000 of personal income (our measure of state investment effort) will continue to decline.

Change over 25 Years

Between FY1978 and FY2003 the state tax fund investment effort in higher education declined from $10.56 per $1000 of personal income to $7.35 for the 50 states. This was a decline of $3.21 per $1000 of personal income, or a decline of 30.4 percent over the last twenty-five years.

During this period two states actually increased their state tax fund investment effort in higher education. **New Mexico** increased its effort from $14.49 in FY1978 to $14.66 in FY2003. Actually New Mexico continued to increase its state investment effort after FY1978 to a peak of $17.30 in FY1985.

Kentucky also increased its higher education investment effort between FY1978 and FY2003, from $10.68 to $10.80. But its effort peaked in FY1979 at $12.53 per $1000 of personal income.

In the other 48 states higher education investment effort declined between FY1978 and FY2003. The largest dollar declines were in **Arizona** (-$7.97), **Washington** (-$7.18), **Colorado** (-6.65), **South Carolina** (-$6.48), **Minnesota** (-$6.45), **Utah** (-$5.92) and **Oregon** (-$5.91).

The states with the largest percentage reductions in state investment effort include four that have reduced their investment effort by half or more over the last 25 years. These four are: **Arizona** (-54.7 percent), **Colorado** (-54.6 percent), **New Hampshire** (-50.2 percent) and **Washington** (-50.0 percent). Three more states have nearly matched their fete: **Oregon** (-48.9 percent), **Rhode Island** (-48.2 percent) and **Vermont** (-47.7 percent).

These seven states seem to have forgotten their higher education systems over the last quarter decade that includes all of the Human Capital Economy.

Dollar Losses

In FY2003 states appropriated $63.6 billion from tax funds for higher education.

- If states had appropriated at the FY2002 level of effort, they would have appropriated 65.0 billion, or $1.4 billion more than they did.
- If states had appropriated at the FY2001 level of effort, they would have appropriated $67.9 billion, or $4.3 billion more than they did.
- If states had appropriated at the FY1990 effort level, they would have appropriated $80.1 billion, or $16.5 billion more than they did.
- If states had appropriated at the FY1978 peak effort level they would have appropriated $91.4 billion, or $27.8 billion more than they did.

In effect these are measures of the reduction in state investment effort in higher education over the last 25 years. Because our measure controls for the tax base available to states to fund state programs (state personal income), the reductions calculated above directly measure reduction in state investment effort.

Current State Budget Conditions

The FY2003 state appropriations for higher education reported by Grapevine and used here are already too high and outdated. Many are being revised downward and more will be reduced before this nyear is over.

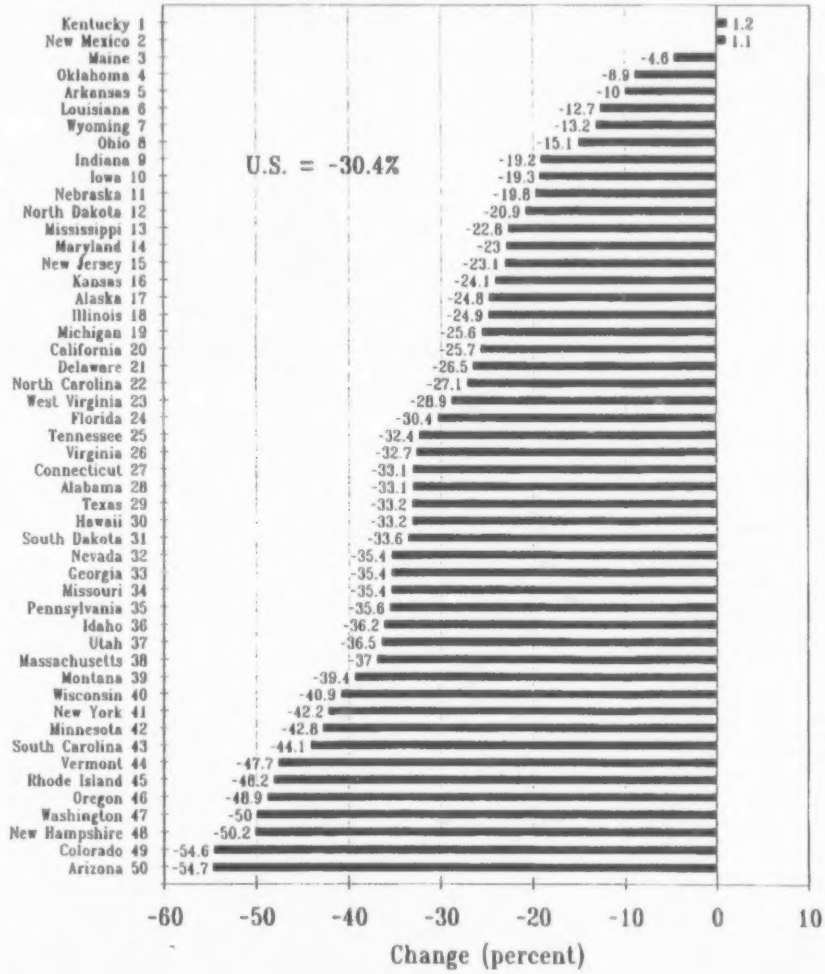
- Some states reduced appropriations almost as soon as they were made.
- Most states delayed politically difficult mid-year budget rescissions until after the November elections and are making these reductions now as we write this analysis.
- In at least one case--California--these rescissions have produced mid-year tuition increases.

Grapevine will revise its initially reported FY2003 appropriations when data on FY2004 appropriations are collected next fall. We will revise our FY2003 appropriations efforts (downward) at that time as well.

The current state budget picture has been described by the executive director of the National Governors Association as the worst since World War II.

- Since the second quarter of 2000 year-to-year state revenue growth has steadily declined. State revenue growth became negative in the third quarter of 2001.
- Health care costs (Medicaid, drugs) and homeland security costs are growing in state budgets.
- State budget balances have declined from $44.1 billion in FY2001, to $17 billion in FY2002, to $14.5 billion in FY2003.
- As of November half of the states had already cut their FY2003 budgets.

Change In State Tax Fund Appropriations per $1000 of State Personal Income between FY1978 and FY2003



State Tax Fund Appropriations for Higher Education per $1000 of Personal Income, FY1962 to FY2003

	1962	*1965*	*1970*	*1975*	*1980*	*1985*	*1990*	*1991*	*1992*	*1993*	*1994*	*1995*	*1996*	*1997*	*1998*	*1999*	*2000*	*2001*	*2002*	*2003*
Alabama	$4.03	$5.15	$8.36	$12.49	$13.83	$14.32	$13.94	$13.58	$12.77	$12.18	$12.34	$13.60	$11.99	$11.53	$11.20	$11.37	$11.39	$10.81	$10.55	$10.46
Alaska	$4.54	$6.99	$9.79	$15.92	$19.13	$25.05	$16.54	$15.95	$14.32	$13.15	$12.85	$11.53	$11.44	$11.09	$10.70	$10.34	$10.30	$10.99	$10.90	$10.83
Arizona	$6.56	$8.87	$12.62	$14.56	$12.18	$10.87	$9.93	$9.97	$9.43	$9.22	$8.80	$8.88	$8.40	$8.23	$8.22	$8.07	$7.67	$7.48	$6.75	$6.61
Arkansas	$6.14	$6.56	$10.40	$10.05	$11.63	$11.40	$10.51	$10.15	$11.22	$11.27	$10.63	$10.41	$10.57	$10.58	$10.61	$10.90	$11.25	$11.36	$10.56	$10.16
California	$5.52	$6.42	$9.18	$11.01	$12.81	$8.73	$9.94	$9.06	$8.89	$7.35	$6.36	$6.78	$7.06	$7.77	$7.90	$8.42	$8.27	$8.99	$8.62	$8.50
Colorado	$6.31	$7.29	$12.15	$12.61	$10.45	$9.02	$8.97	$8.37	$7.71	$7.68	$7.20	$6.78	$6.75	$6.66	$6.52	$6.27	$6.07	$5.85	$5.30	$5.53
Connecticut	$2.00	$2.22	$6.09	$7.06	$7.53	$6.06	$6.51	$6.17	$5.71	$4.91	$5.31	$5.16	$5.29	$5.20	$5.32	$5.36	$5.57	$5.42	$5.34	$5.25
Delaware	$3.47	$4.68	$7.77	$10.94	$10.29	$10.37	$9.24	$8.52	$8.36	$8.06	$7.90	$8.25	$8.23	$8.14	$8.01	$8.15	$8.03	$8.09	$7.53	$7.46
Florida	$5.08	$6.11	$9.50	$9.94	$8.99	$7.56	$7.19	$6.43	$5.75	$5.45	$5.65	$5.73	$5.87	$6.05	$6.44	$7.41	$6.52	$6.77	$6.00	$6.15
Georgia	$4.32	$5.11	$9.59	$10.76	$10.42	$9.85	$8.82	$8.92	$7.58	$7.77	$7.92	$8.10	$8.20	$8.15	$8.10	$8.07	$7.76	$7.50	$7.36	$7.20
Hawaii	$4.85	$6.80	$14.16	$13.66	$14.64	$13.17	$13.69	$12.94	$13.66	$14.03	$13.34	$13.16	$12.05	$11.63	$11.57	$10.32	$10.74	$10.45	$10.18	$10.41
Idaho	$7.91	$7.56	$14.76	$13.64	$12.75	$11.08	$11.85	$12.50	$12.17	$11.33	$10.95	$11.32	$10.87	$10.57	$10.27	$10.57	$10.31	$10.31	$10.33	$9.39
Illinois	$4.27	$4.78	$9.11	$9.39	$8.78	$7.80	$8.09	$7.75	$7.20	$7.04	$6.78	$6.94	$6.88	$6.95	$6.96	$7.08	$7.11	$7.26	$7.24	$6.76
Indiana	$5.36	$6.72	$8.91	$9.09	$9.27	$9.03	$9.50	$9.47	$9.19	$8.87	$8.45	$8.06	$8.04	$8.16	$8.22	$8.23	$8.21	$8.26	$7.97	$7.81
Iowa	$6.99	$7.23	$10.94	$10.69	$11.45	$11.92	$12.46	$12.63	$11.56	$12.17	$11.96	$12.04	$11.62	$11.83	$11.57	$11.55	$11.57	$11.70	$10.11	$9.64
Kansas	$6.32	$8.35	$11.01	$10.59	$12.67	$11.24	$10.83	$10.68	$10.01	$9.96	$9.62	$9.74	$9.56	$9.45	$9.43	$9.49	$9.57	$9.69	$9.62	$9.25
Kentucky	$4.93	$7.25	$10.99	$12.14	$12.24	$11.00	$11.02	$11.35	$11.18	$10.11	$9.69	$9.73	$9.57	$9.55	$9.82	$10.72	$10.50	$10.97	$10.84	$10.80
Louisiana	$8.77	$10.09	$10.03	$12.26	$11.66	$11.53	$9.37	$9.84	$9.17	$8.44	$7.83	$7.77	$7.34	$7.64	$8.76	$9.31	$9.05	$8.85	$9.61	$9.63
Maine	$3.87	$4.77	$9.10	$9.72	$7.61	$7.56	$9.12	$8.35	$8.04	$7.89	$7.60	$7.49	$7.41	$7.28	$7.04	$7.17	$7.23	$7.45	$7.29	$7.04
Maryland	$3.64	$4.25	$6.30	$8.73	$8.71	$7.95	$8.56	$7.78	$6.49	$6.57	$6.27	$6.36	$6.30	$6.28	$6.23	$6.33	$6.59	$7.03	$7.11	$6.88
Massachusetts	$1.18	$1.90	$3.89	$6.53	$6.47	$7.99	$6.45	$5.16	$4.18	$4.56	$5.55	$4.83	$4.76	$4.86	$5.13	$5.09	$5.07	$4.95	$4.22	$3.98
Michigan	$5.38	$6.28	$8.99	$10.41	$9.94	$9.07	$8.87	$8.03	$8.66	$8.55	$8.57	$7.89	$7.65	$7.59	$7.68	$7.52	$7.88	$8.10	$7.69	$7.61
Minnesota	$5.97	$6.34	$10.00	$11.65	$14.08	$12.33	$12.53	$12.25	$11.34	$10.64	$10.39	$10.33	$9.96	$9.64	$9.67	$9.61	$9.19	$9.20	$8.69	$8.62
Mississippi	$6.80	$7.71	$9.80	$15.40	$16.18	$15.32	$14.37	$12.35	$11.68	$11.45	$11.95	$15.14	$14.23	$13.74	$14.26	$14.56	$15.92	$14.45	$12.78	$12.47
Missouri	$3.41	$4.39	$8.28	$8.40	$8.30	$6.92	$7.13	$6.92	$6.32	$6.17	$6.19	$6.36	$6.43	$6.73	$6.78	$7.01	$7.03	$7.01	$6.34	$5.51
Montana	$7.97	$8.16	$11.72	$9.75	$9.99	$11.94	$10.23	$9.98	$10.49	$9.92	$8.90	$8.12	$7.91	$7.72	$7.48	$7.33	$7.30	$7.34	$7.25	$6.74
Nebraska	$5.67	$5.45	$9.19	$10.60	$11.91	$11.61	$11.67	$12.38	$11.90	$11.85	$11.36	$11.37	$11.23	$11.07	$10.48	$10.81	$10.96	$11.70	$10.97	$10.52
Nevada	$5.78	$5.17	$7.74	$8.54	$8.09	$6.48	$7.50	$7.34	$7.61	$7.59	$6.43	$6.00	$6.25	$6.05	$6.73	$6.14	$5.88	$5.68	$5.79	$5.89
New Hampshire	$3.53	$3.24	$4.38	$4.88	$4.28	$3.41	$3.23	$3.20	$3.26	$3.14	$3.26	$3.38	$3.08	$2.90	$2.94	$2.81	$2.72	$2.69	$2.58	$2.59
New Jersey	$1.39	$2.29	$4.25	$6.53	$6.91	$6.19	$6.58	$5.88	$6.03	$6.28	$6.12	$5.96	$6.12	$5.78	$5.63	$5.58	$5.54	$5.75	$5.52	$5.48
New Mexico	$7.24	$9.17	$13.42	$13.44	$16.17	$17.30	$14.93	$15.84	$15.37	$14.98	$15.15	$15.73	$15.73	$15.37	$14.63	$14.84	$14.76	$15.00	$15.37	$14.66
New York	$2.37	$4.26	$8.07	$10.66	$9.70	$9.39	$8.62	$8.05	$6.90	$6.65	$6.50	$6.73	$5.92	$5.59	$5.37	$5.61	$5.44	$5.66	$5.42	$5.58
North Carolina	$4.85	$5.78	$12.77	$14.87	$14.91	$15.08	$14.56	$14.10	$12.51	$12.78	$12.48	$12.38	$11.90	$11.60	$11.97	$11.96	$11.79	$11.92	$11.18	$10.88
North Dakota	$9.10	$8.78	$13.77	$8.13	$11.68	$14.35	$15.51	$14.43	$14.38	$14.69	$12.83	$12.75	$12.47	$12.56	$12.72	$12.98	$12.42	$12.48	$12.57	$12.26
Ohio	$2.23	$2.60	$6.31	$6.87	$7.44	$7.46	$7.89	$7.63	$6.93	$6.56	$6.60	$6.74	$6.85	$6.93	$7.05	$6.92	$7.04	$7.20	$6.51	$6.45
Oklahoma	$6.70	$6.68	$8.07	$8.69	$10.63	$9.53	$10.03	$10.39	$10.63	$10.53	$9.59	$9.26	$9.05	$9.74	$10.05	$10.37	$9.91	$10.20	$9.59	$9.35
Oregon	$8.60	$8.50	$12.69	$11.30	$10.77	$8.97	$8.99	$8.74	$8.84	$8.96	$7.36	$7.02	$7.14	$6.75	$7.35	$6.91	$7.72	$7.76	$7.13	$6.18
Pennsylvania	$1.78	$2.40	$7.71	$9.34	$7.53	$6.71	$6.68	$6.28	$6.29	$5.82	$5.87	$5.91	$5.95	$5.77	$5.74	$5.66	$5.67	$5.84	$5.51	$5.33
Rhode Island	$3.05	$4.81	$8.73	$9.67	$9.74	$8.07	$7.04	$5.88	$5.23	$5.32	$5.30	$5.56	$5.38	$5.36	$5.34	$5.44	$5.50	$5.64	$5.68	$5.30
South Carolina	$4.20	$4.70	$10.70	$18.14	$16.63	$14.27	$12.78	$12.45	$10.86	$10.59	$10.10	$10.07	$9.93	$9.99	$9.76	$9.60	$9.37	$9.67	$8.77	$8.21
South Dakota	$6.79	$8.63	$9.83	$9.19	$10.32	$8.77	$8.90	$8.81	$8.79	$8.78	$8.22	$8.49	$8.30	$8.12	$7.60	$7.73	$7.44	$7.41	$7.34	$7.37
Tennessee	$3.72	$4.62	$8.20	$9.80	$10.91	$10.35	$9.86	$9.23	$8.26	$8.57	$8.67	$8.93	$8.46	$8.01	$7.63	$7.64	$7.33	$7.50	$7.13	$7.45
Texas	$4.51	$5.21	$10.12	$9.48	$12.32	$12.20	$10.28	$9.40	$9.48	$8.90	$9.43	$8.65	$8.56	$7.94	$8.30	$7.52	$7.95	$8.28	$8.74	$8.55
Utah	$8.51	$8.62	$13.40	$14.98	$14.45	$14.31	$13.17	$12.80	$12.63	$12.65	$12.30	$12.53	$12.29	$12.27	$11.67	$11.19	$10.93	$11.13	$11.14	$10.32
Vermont	$5.03	$6.45	$10.06	$9.44	$7.72	$7.28	$6.47	$5.82	$5.16	$5.39	$4.81	$4.69	$4.62	$4.41	$4.36	$4.30	$4.30	$4.39	$4.27	$4.30
Virginia	$3.10	$4.47	$7.93	$9.93	$10.45	$9.91	$9.72	$8.83	$7.55	$7.05	$6.77	$6.58	$6.33	$6.64	$6.78	$7.21	$7.67	$7.98	$7.33	$6.63
Washington	$8.42	$8.91	$15.16	$13.65	$8.98	$10.46	$10.40	$10.25	$9.39	$9.10	$8.55	$8.02	$8.09	$8.31	$7.97	$7.63	$7.58	$7.65	$7.33	$7.17
West Virginia	$6.62	$7.14	$12.13	$12.25	$12.28	$11.74	$10.94	$11.28	$10.87	$10.40	$10.20	$10.00	$10.33	$10.49	$10.45	$10.29	$9.87	$10.32	$9.92	$9.55
Wisconsin	$4.57	$5.98	$11.09	$14.02	$12.20	$11.26	$10.18	$10.04	$9.70	$9.74	$9.41	$9.39	$8.79	$8.34	$8.22	$8.07	$7.80	$8.16	$7.81	$7.72
Wyoming	$7.73	$7.87	$13.66	$12.72	$12.78	$16.80	$16.69	$16.63	$15.31	$14.14	$13.76	$13.59	$13.00	$13.12	$12.73	$12.22	$11.52	$12.02	$11.80	$13.05
Total	$4.19	$5.14	$8.80	$10.22	$10.42	$9.47	$9.25	$8.73	$8.24	$7.87	$7.67	$7.68	$7.56	$7.55	$7.61	$7.70	$7.65	$7.84	$7.51	$7.35

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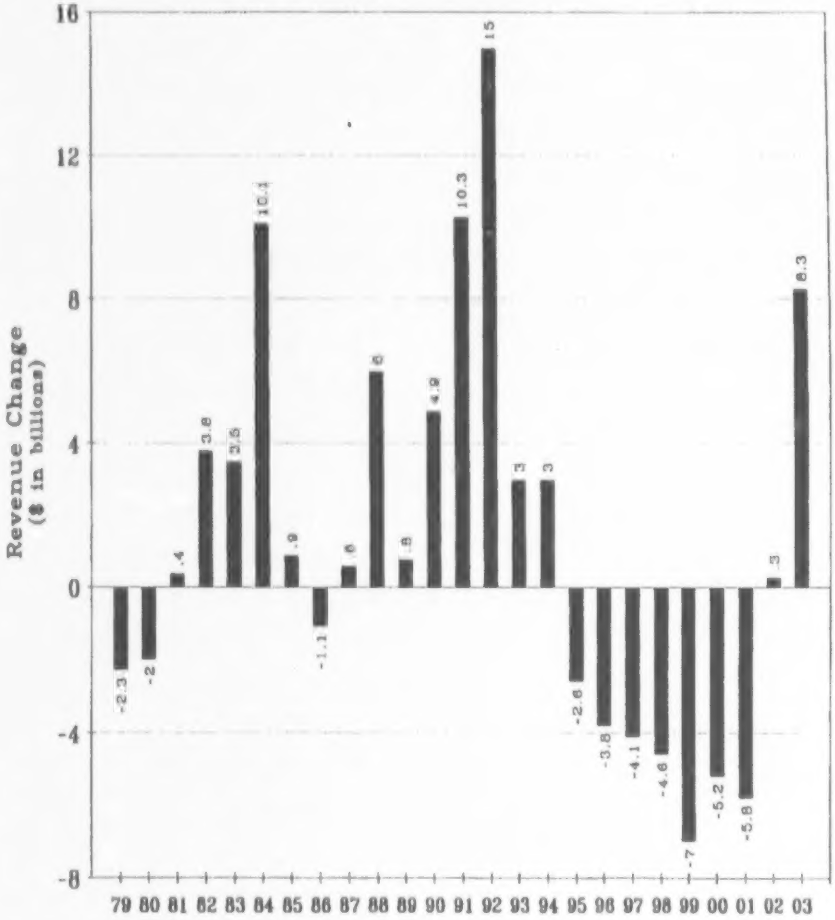
The actions taken by states to balance their budgets are of four types:

- **One-time only actions:** rainy day funds tapped, tobacco settlements, payments delayed, transferring "special" funds, construction delayed, use of debt, underestimating inflation
- **Revenue:** cigarette tax increases, gas tax increases, fees and fines increased, delaying tax refunds
- **Cuts:** across-the-board budget cuts, aid to localities cut, benefit cuts, specific cuts, grants cut
- **Personnel:** layoffs, furloughs, hiring freezes, early retirement

State budget shortfalls projected for FY2004 are between $40 and $50 billion. We offer here our own suggestions for states to consider to address their budget problems:

- Repeal state tax cuts enacted between FY1995 and FY2001. These total $33.1 billion.
- Cap health care expenditures at a fixed share of state budgets, probably around 20 percent. If serious cost containment is not implemented now Medicaid and other health care expenditures will someday take every penny of state and local government budgets.
- Stop locking up an ever-growing share of the population for ever-longer sentences for non-violent offenses without enacting tax increases to pay for this. So far the main source of increased state revenue to pay for prison expansion has been college student tuition and fees.
- Start collecting sales taxes on Internet sales.
- Redesign state business tax systems to fairly tax the growing service economy. The current system was designed to tax a smoke-stack economy. Manufactured goods have declined as a share of total personal consumption from 62 percent in 1952 to about 42 percent in 2001. Services have grown from about 34 percent of personal consumption in 1952 to 58 percent in 2001.

Enacted State Revenue Changes
FY1979 to FY2003

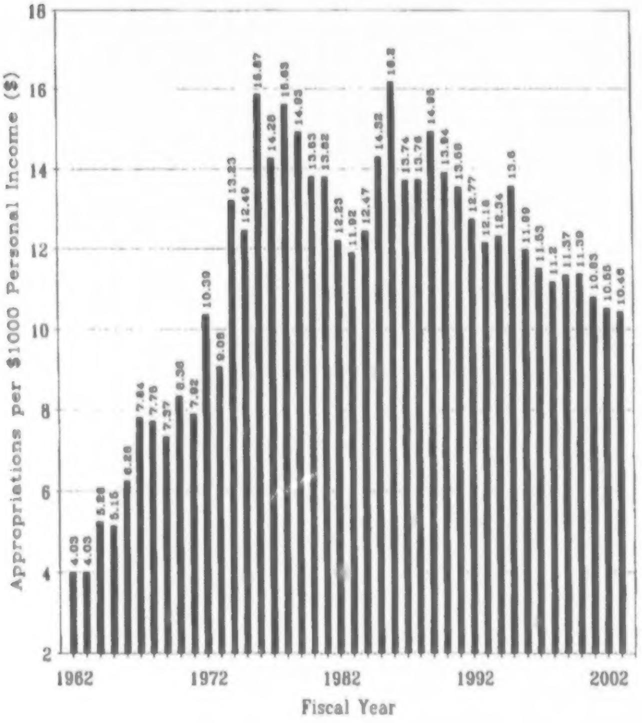


Source: NASBO

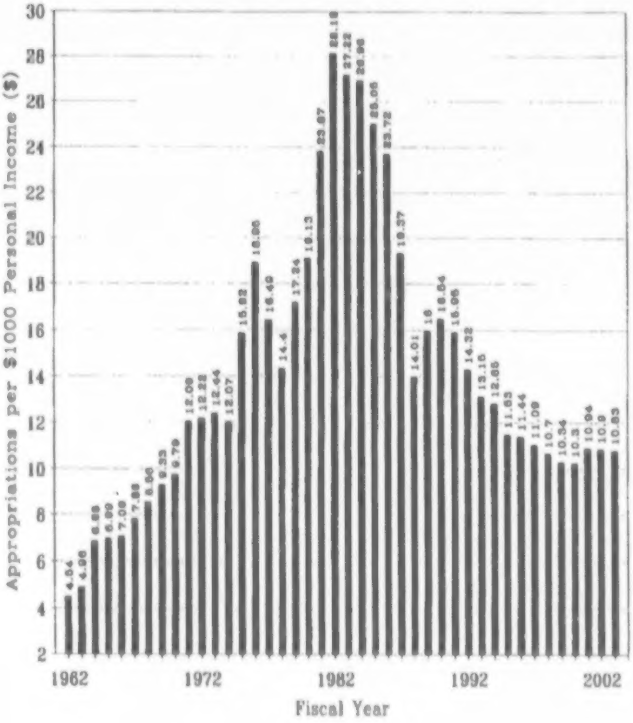
Opportunity for Higher Education

The state cutbacks in higher education investment effort have been only partially offset by increasing tuition and fee charges to students. As a result higher education's share of Gross Domestic Product has been shrinking since about 1993 as we reported in the November 2001 issue of OPPORTUNITY. The 1993 share of GDP committed to higher education would have produced $11.9 billion more for higher education than it did in 2000 due to the reduction in state investment effort in higher education.

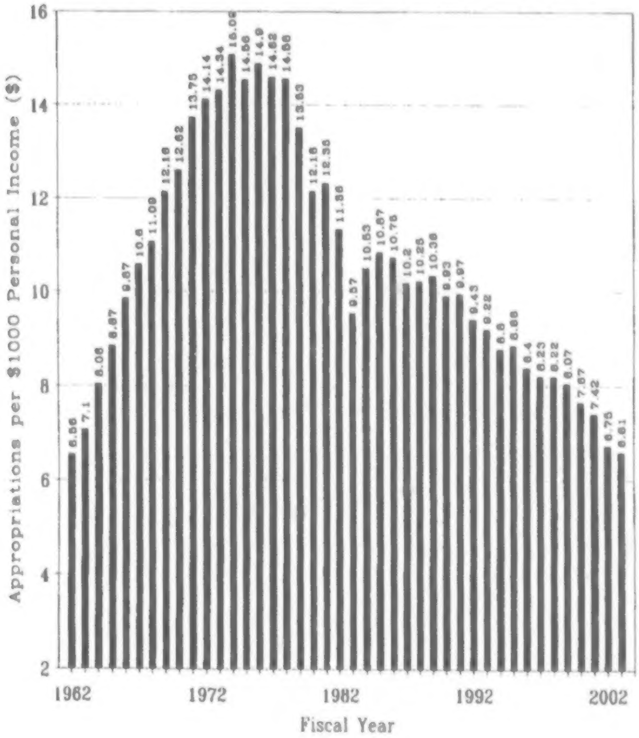
Higher education opportunity costs real money: for capacity, for quality and for affordability. When funding is curtailed one or more of these dimensions of opportunity are sacrificed. Inevitably the sacrifice is not shared equally across the population. Those most dependent on outside assistance bear the sacrifice disproportionately, and these groups represent a growing share of our future workforce and prosperity.



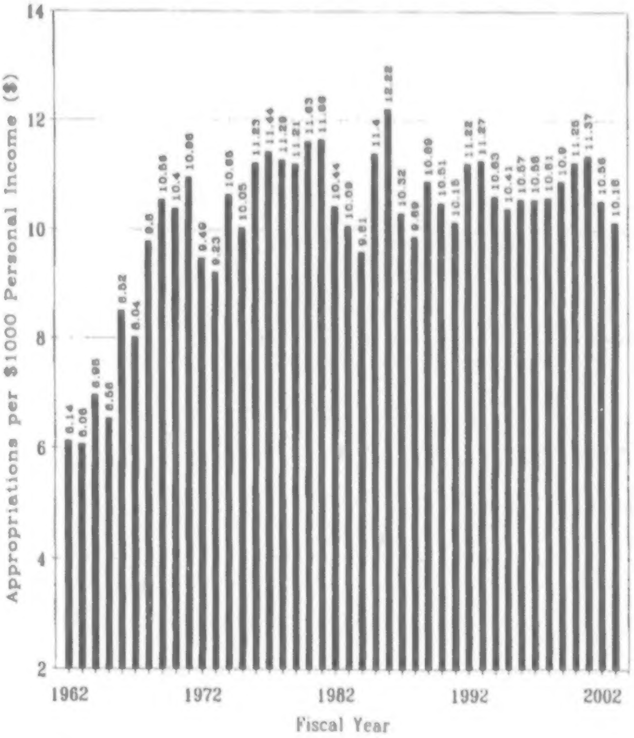
Alabama Appropriations of State Tax Funds for Higher Education per $1000 of Personal Income FY1962 to FY2003



Alaska Appropriations of State Tax Funds for Higher Education per $1000 of Personal Income FY1962 to FY2003

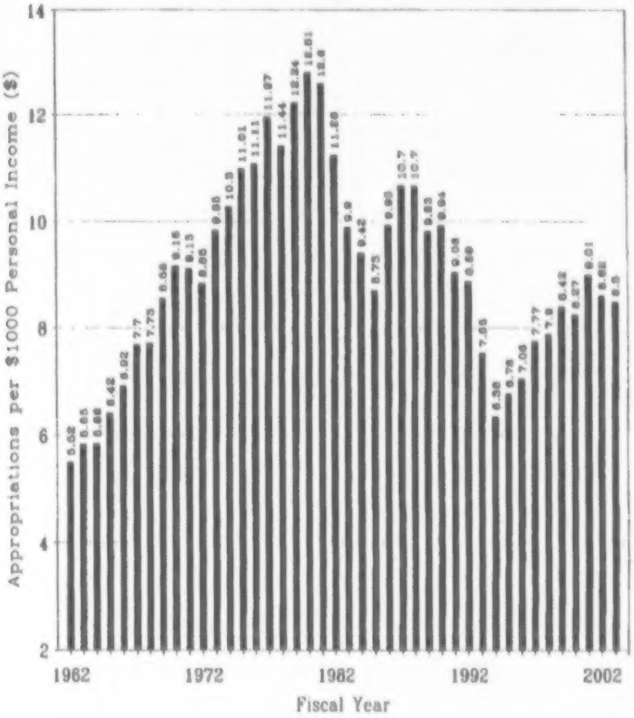


Arizona Appropriations of State Tax Funds for Higher Education per $1000 of Personal Income FY1962 to FY2003

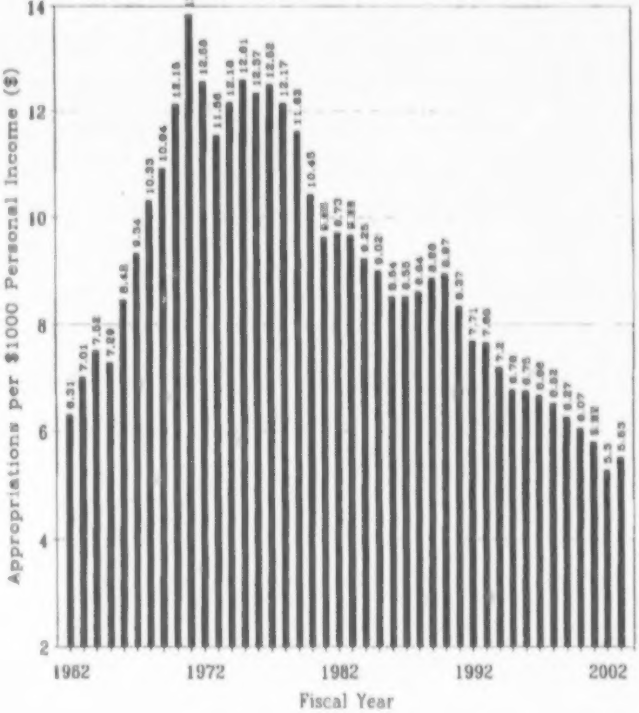


Arkansas Appropriations of State Tax Funds for Higher Education per $1000 of Personal Income FY1962 to FY2003

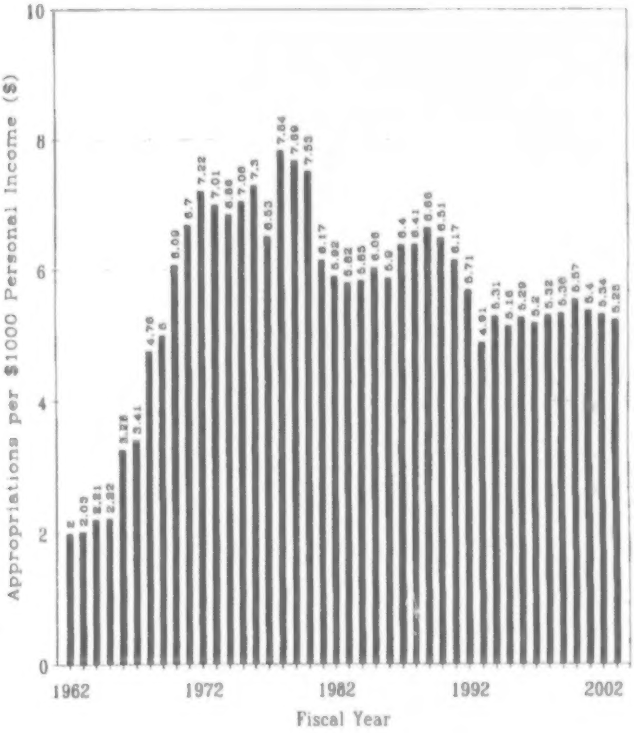
California Appropriations of State Tax Funds for Higher Education per $1000 of Personal Income FY1962 to FY2003



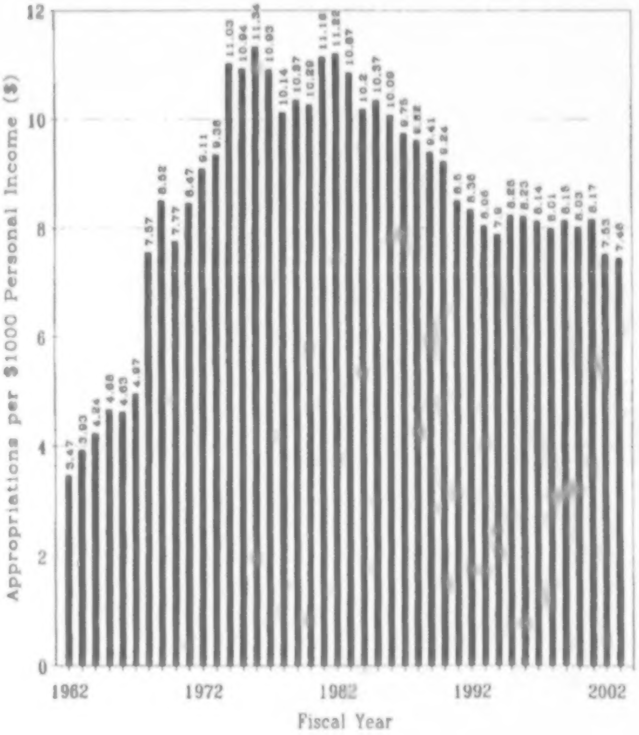
Colorado Appropriations of State Tax Funds for Higher Education per $1000 of Personal Income FY1962 to FY2003



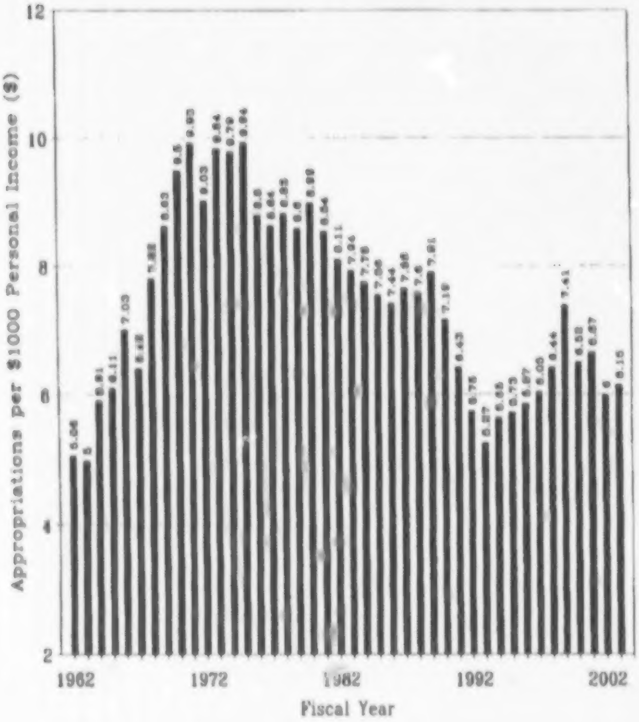
Connecticut Appropriations of State Tax Funds for Higher Education per $1000 of Personal Income FY1962 to FY2003



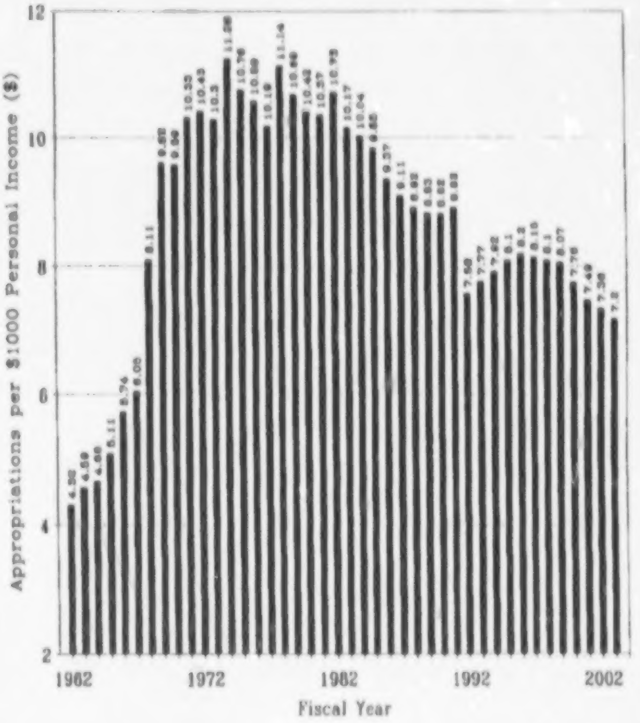
Delaware Appropriations of State Tax Funds for Higher Education per $1000 of Personal Income FY1962 to FY2003



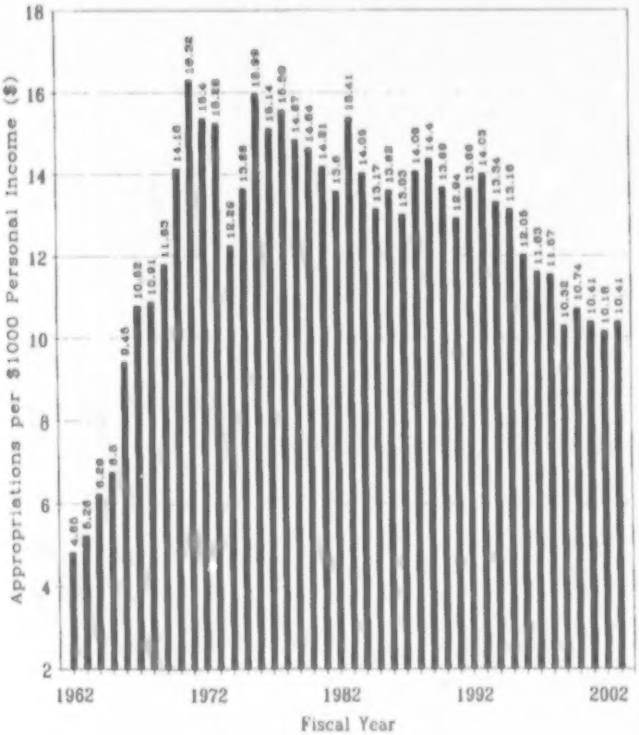
Florida Appropriations of State Tax Funds for Higher Education per $1000 of Personal Income FY1962 to FY2003



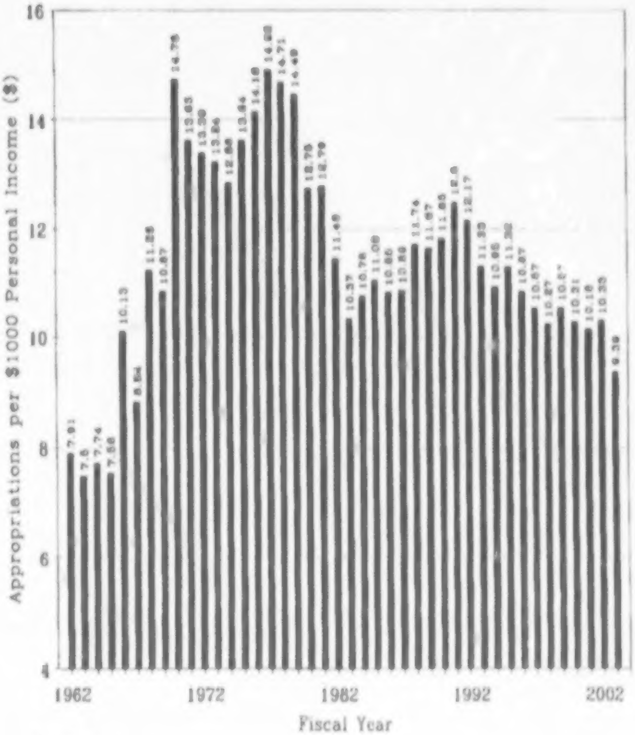
Georgia Appropriations of State Tax Funds for Higher Education per $1000 of Personal Income FY1962 to FY2003



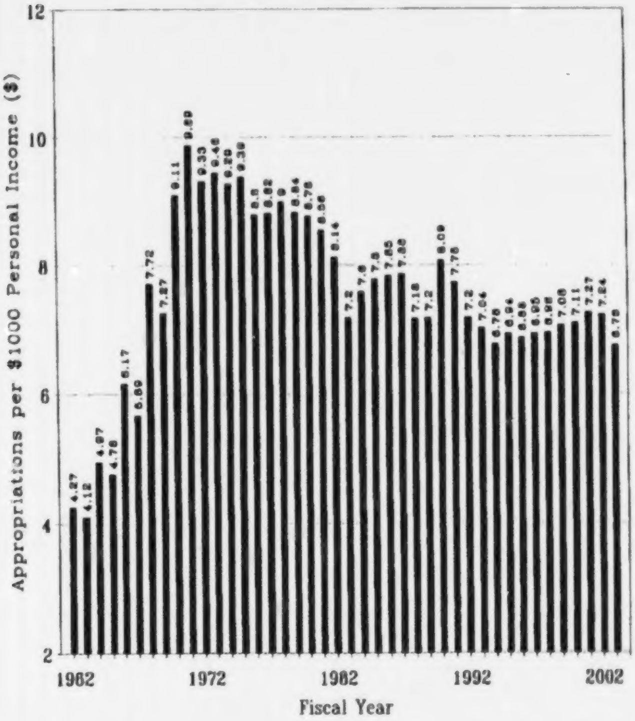
Hawaii Appropriations of State Tax Funds for Higher Education per $1000 of Personal Income FY1962 to FY2003



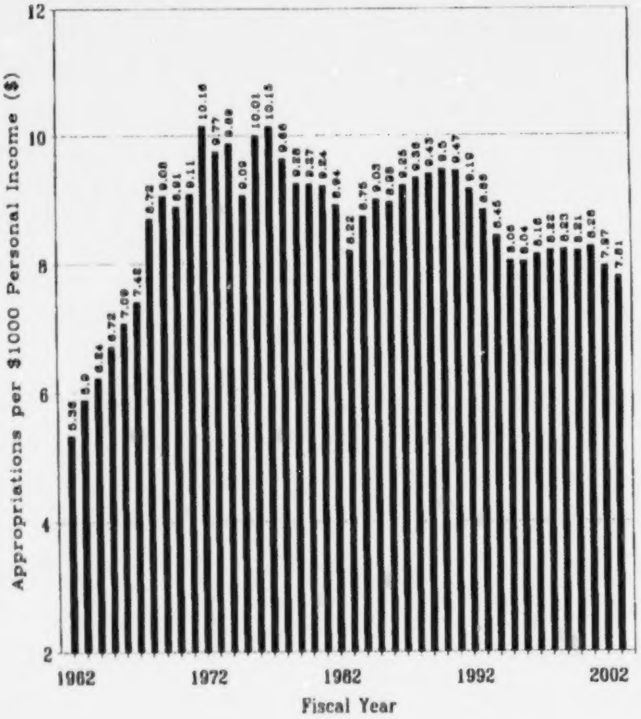
Idaho Appropriations of State Tax Funds for Higher Education per $1000 of Personal Income FY1962 to FY2003



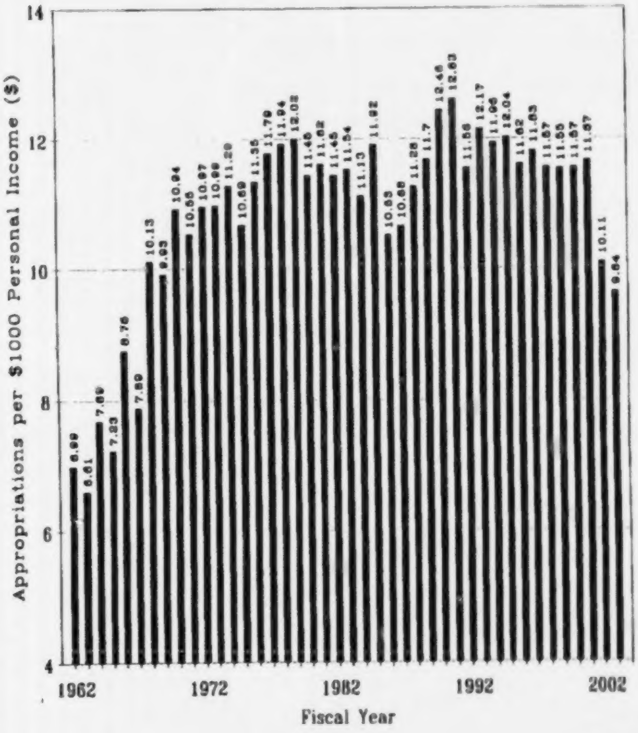
Illinois Appropriations of State Tax Funds for Higher Education per $1000 of Personal Income FY1962 to FY2003



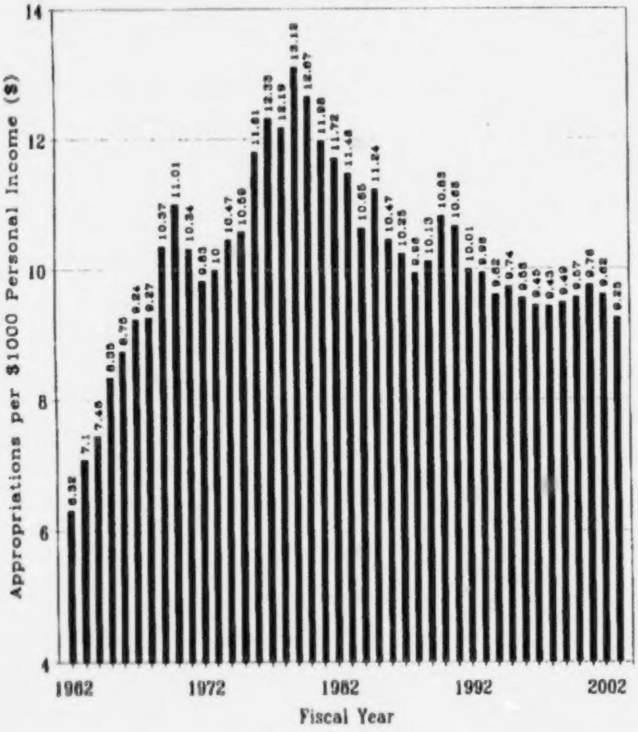
Indiana Appropriations of State Tax Funds for Higher Education per $1000 of Personal Income FY1962 to FY2003



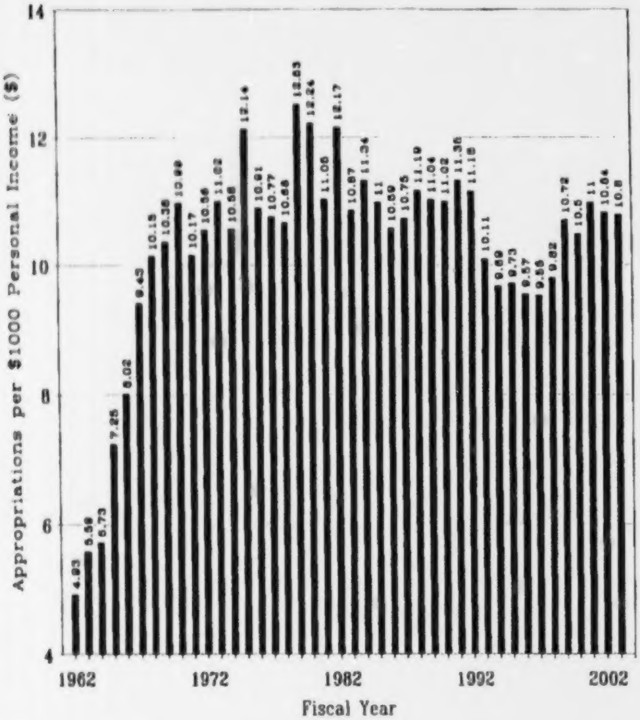
Iowa Appropriations of State Tax Funds for Higher Education per $1000 of Personal Income FY1962 to FY2003



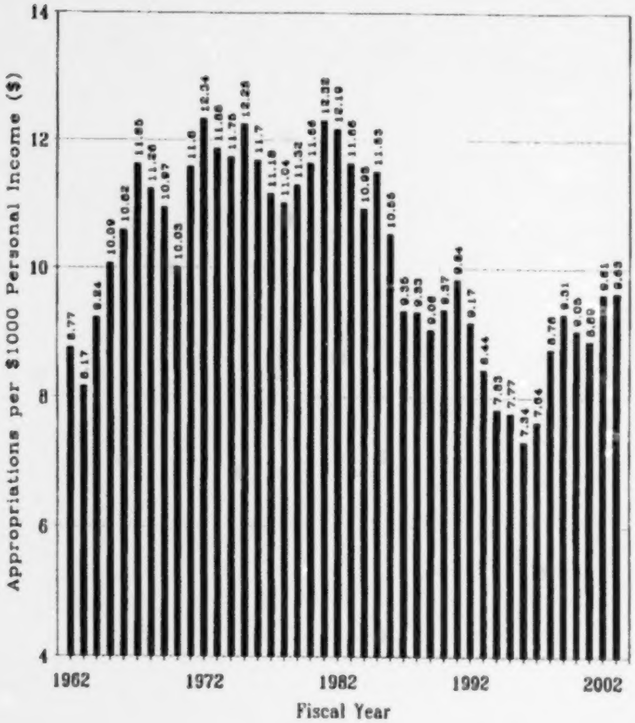
Kansas Appropriations of State Tax Funds for Higher Education per $1000 of Personal Income FY1962 to FY2003



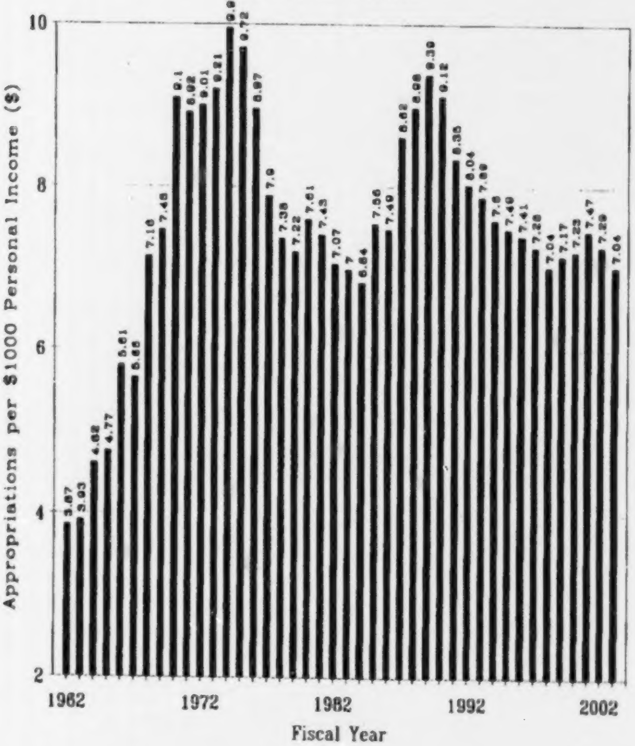
Kentucky Appropriations of State Tax Funds for Higher Education per $1000 of Personal Income FY1962 to FY2003



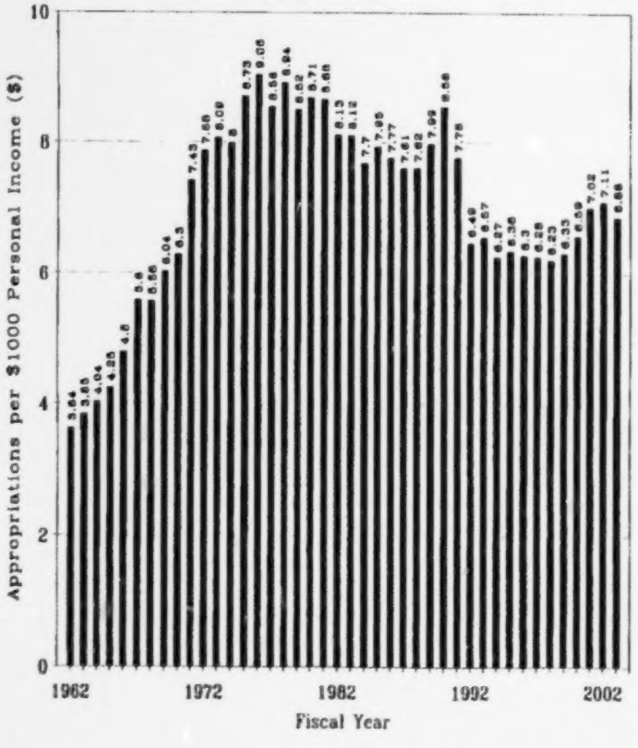
Louisiana Appropriations of State Tax Funds for Higher Education per $1000 of Personal Income FY1962 to FY2003



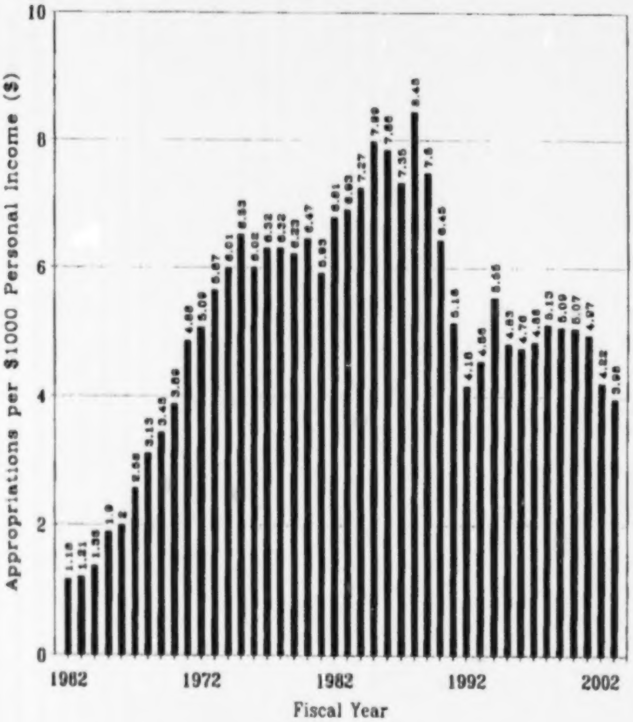
Maine Appropriations of State Tax Funds for Higher Education per $1000 of Personal Income FY1962 to FY2003



Maryland Appropriations of State Tax Funds for Higher Education per $1000 of Personal Income FY1962 to FY2003



Massachusetts Appropriations of State Tax Funds for
Higher Education per $1000 of Personal Income
FY1962 to FY2003



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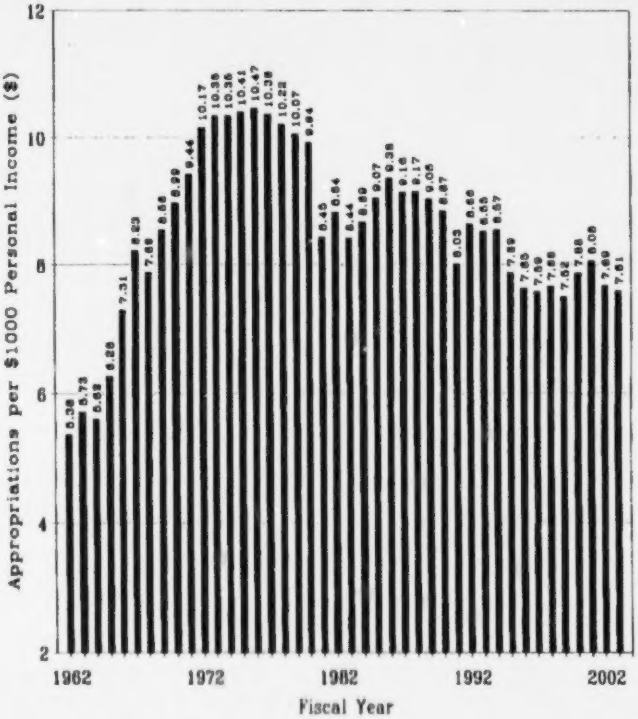
FY1962 to FY2003



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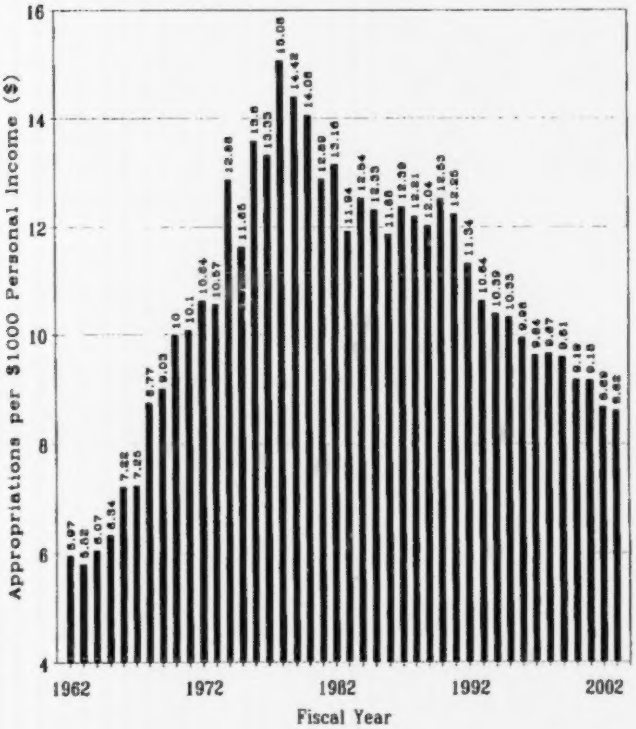
FY1962 to FY2003



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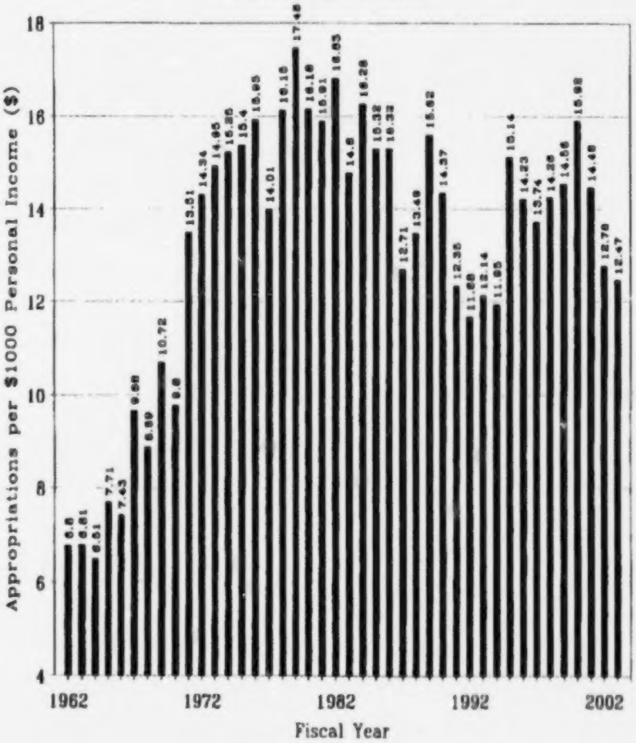

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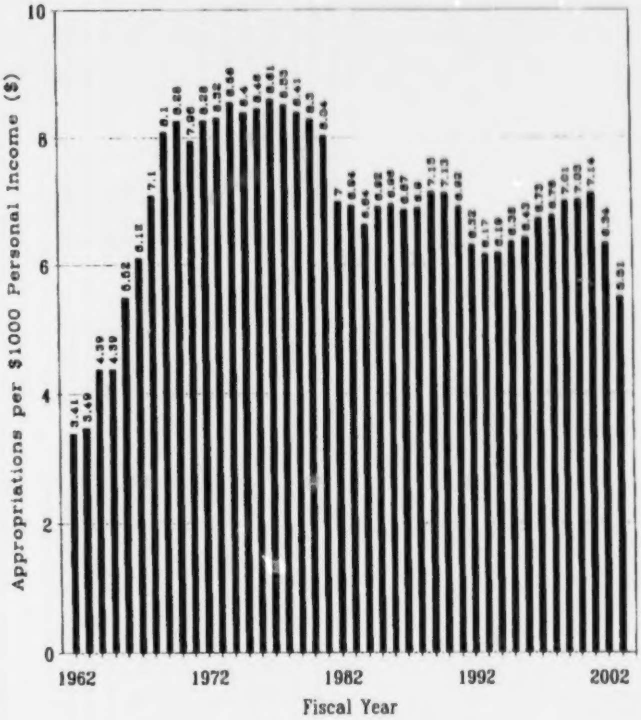

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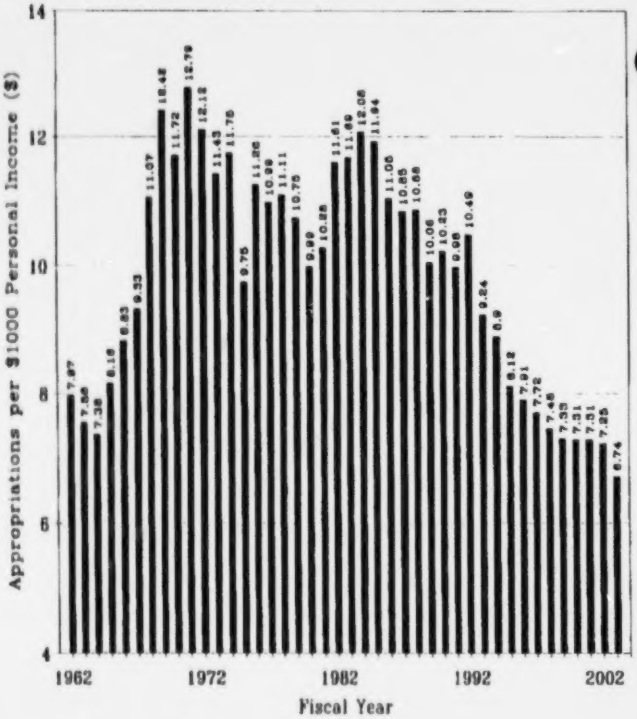

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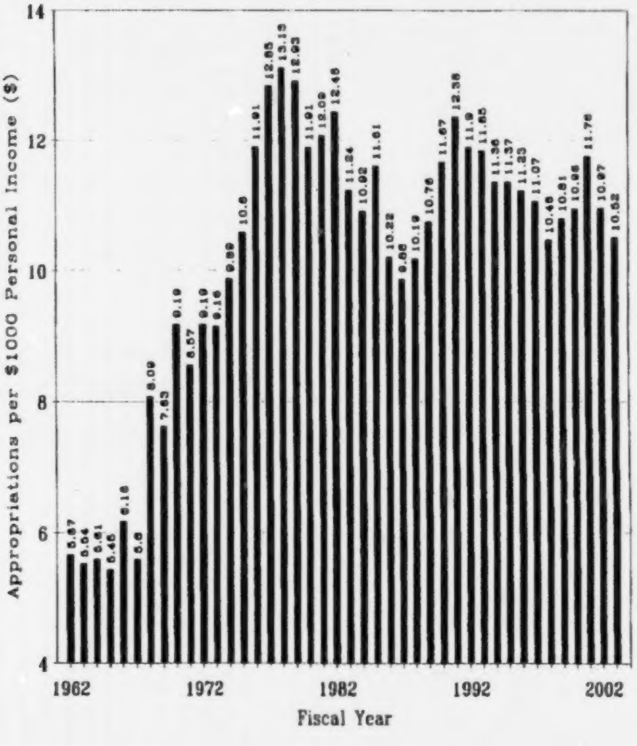

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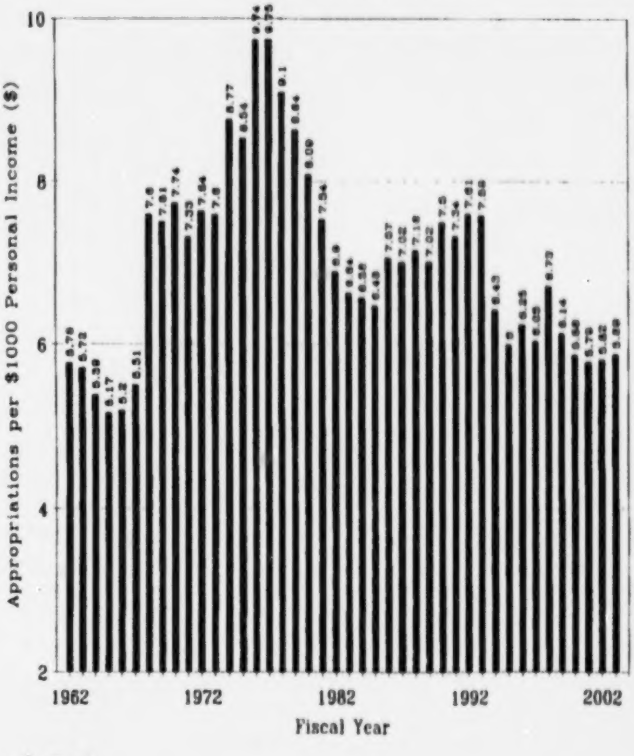

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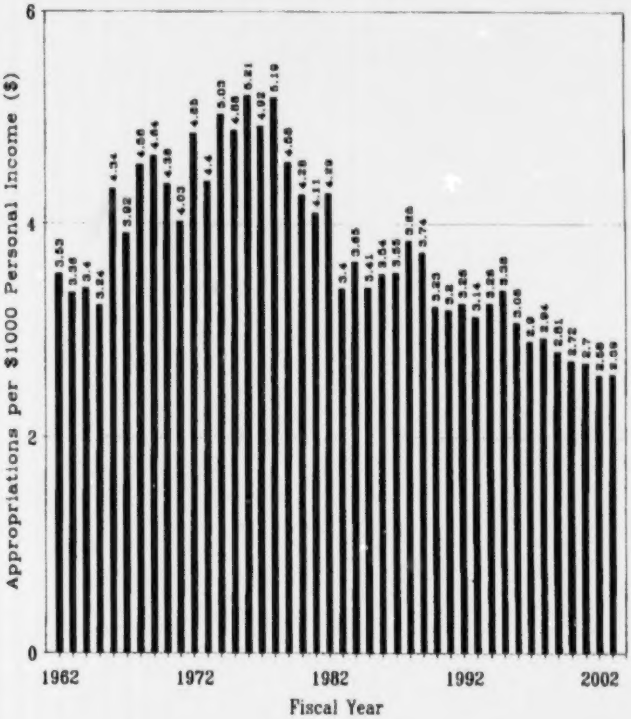
FY1962 to FY2003



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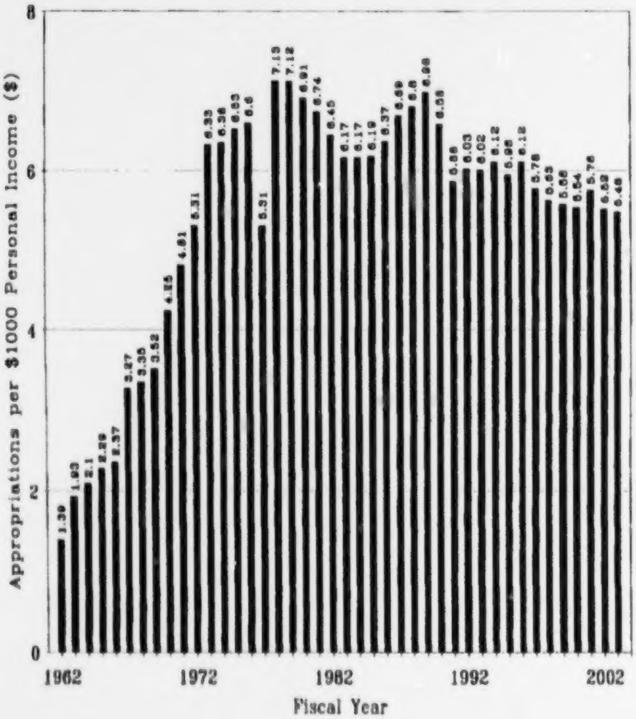
FY1962 to FY2003



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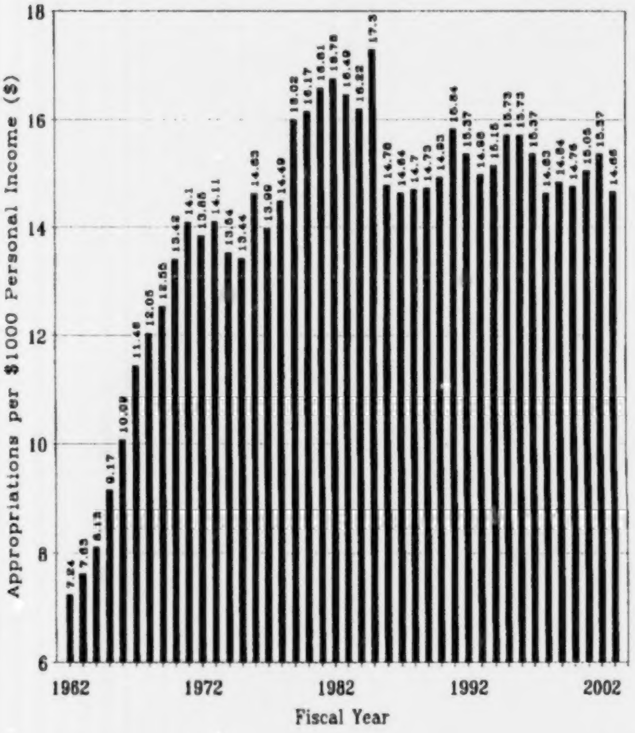
FY1962 to FY2003



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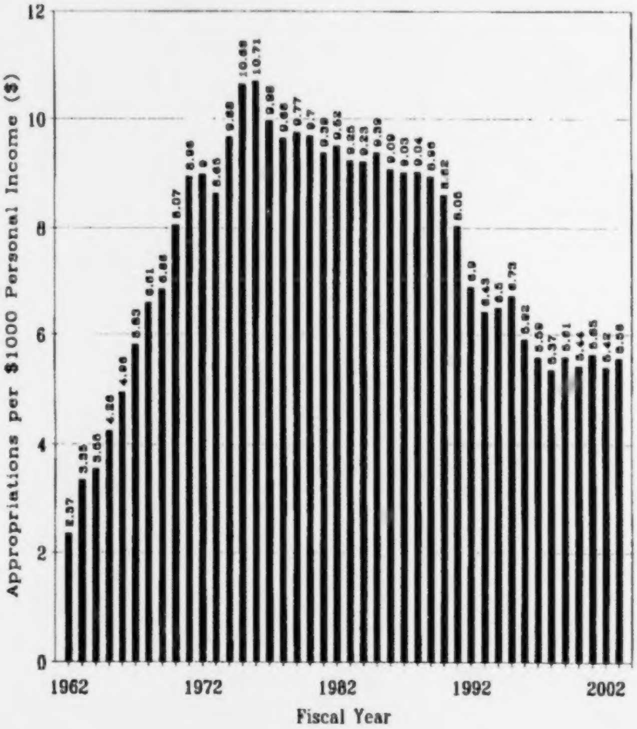
FY1962 to FY2003



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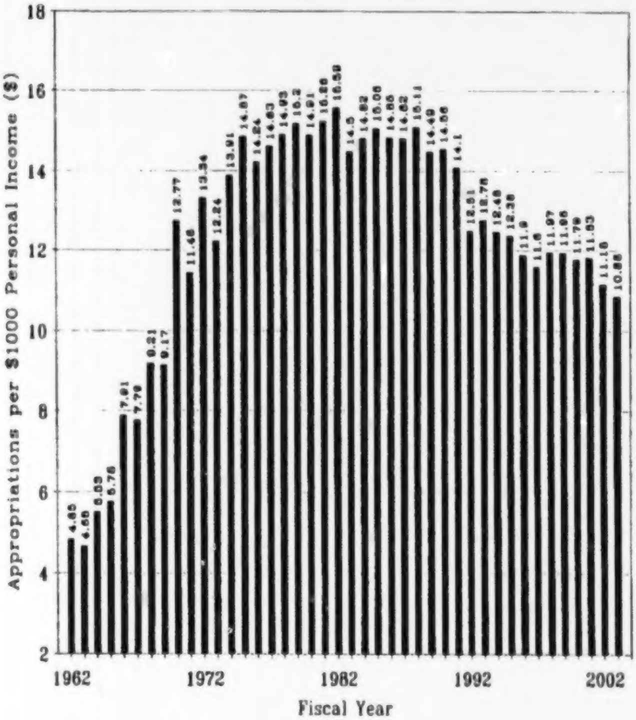

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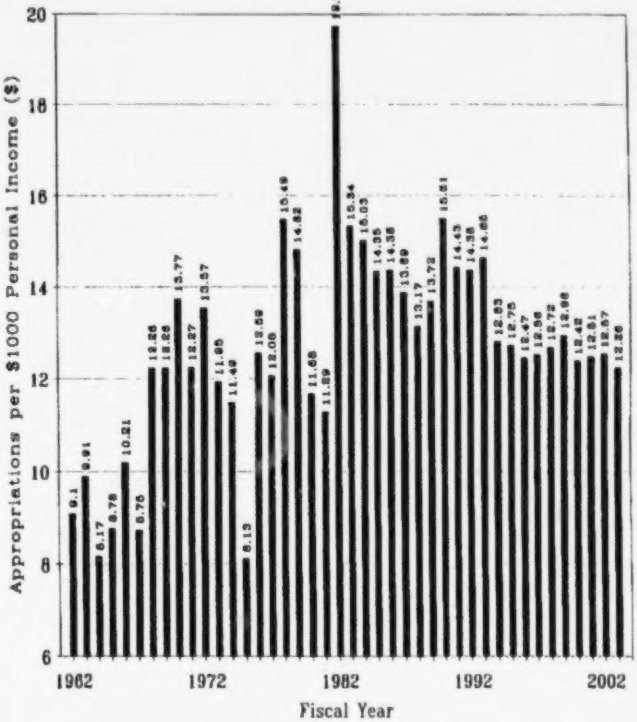

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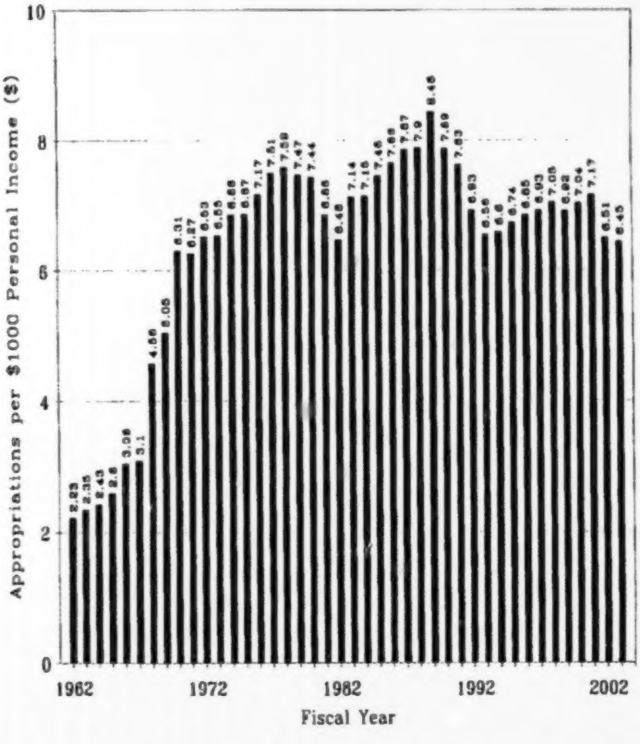

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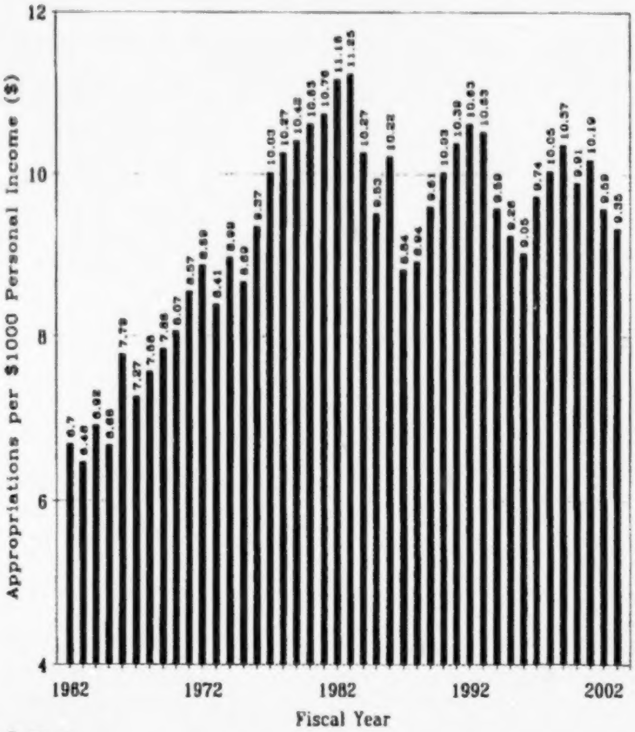

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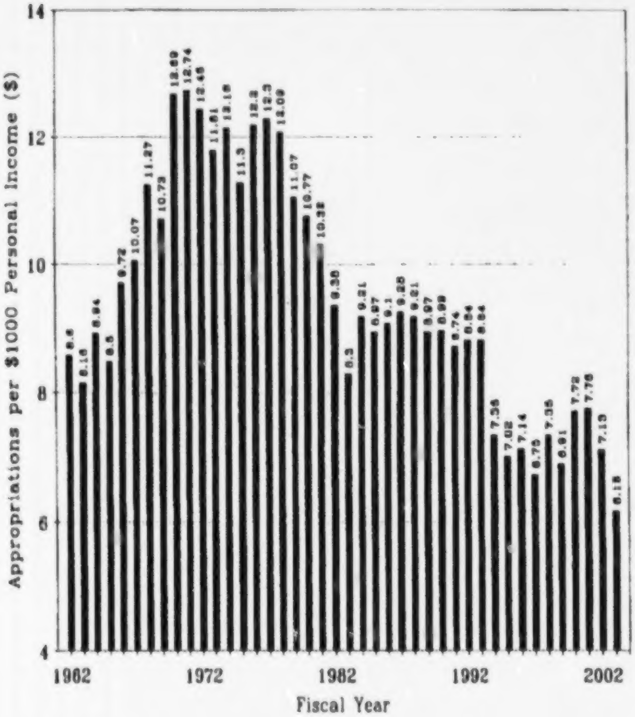

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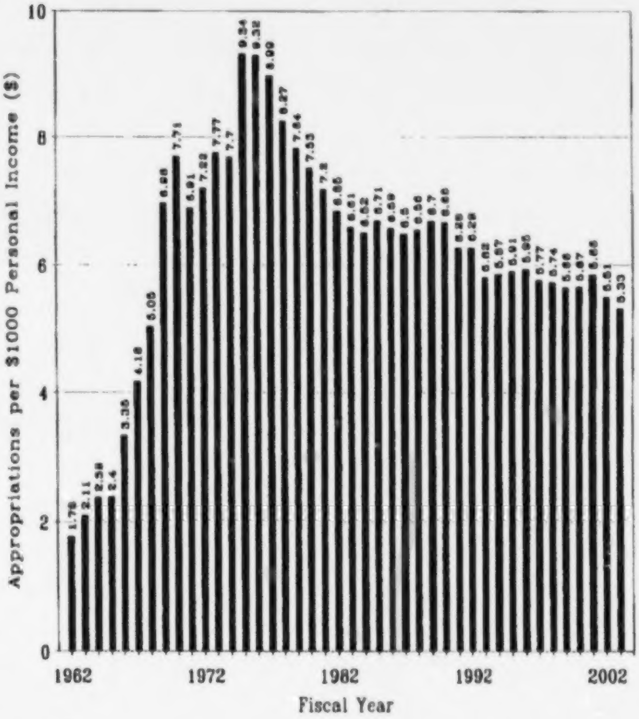

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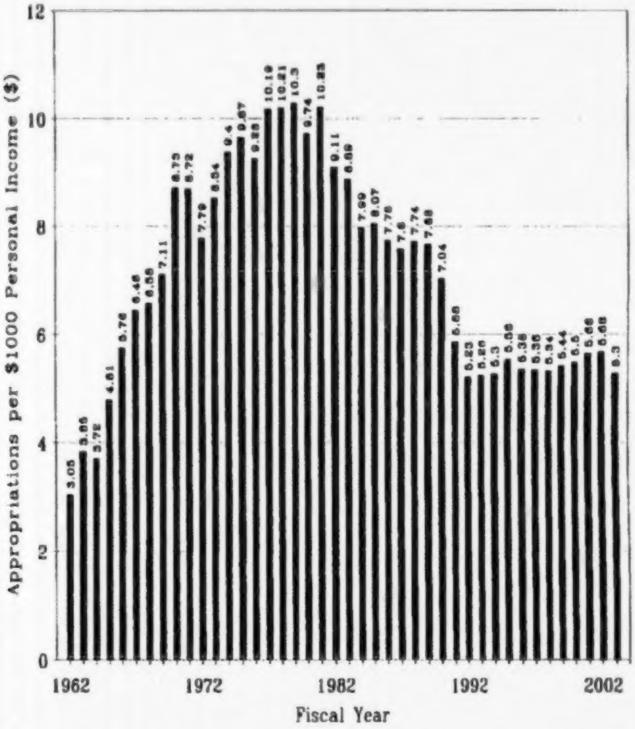

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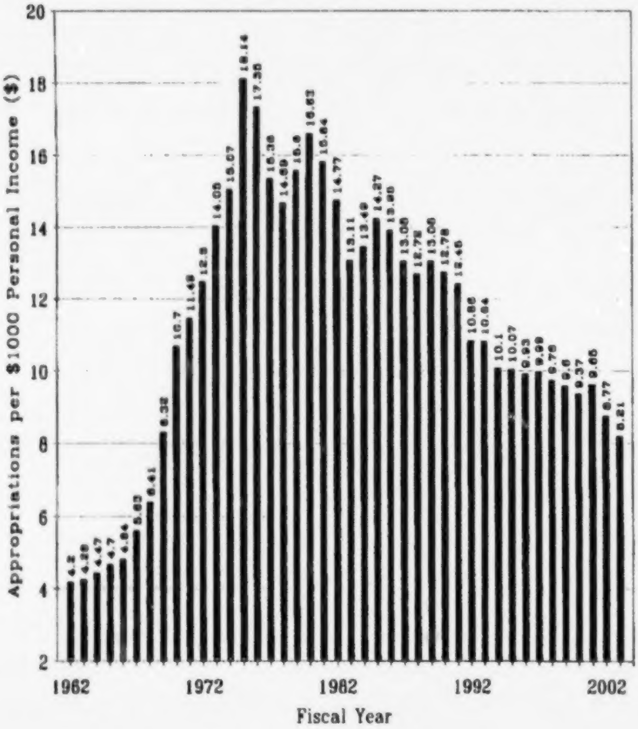

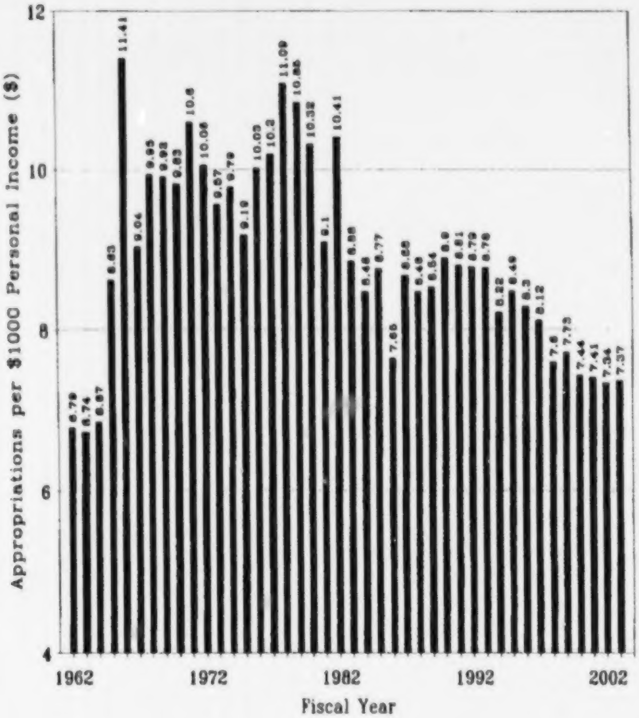
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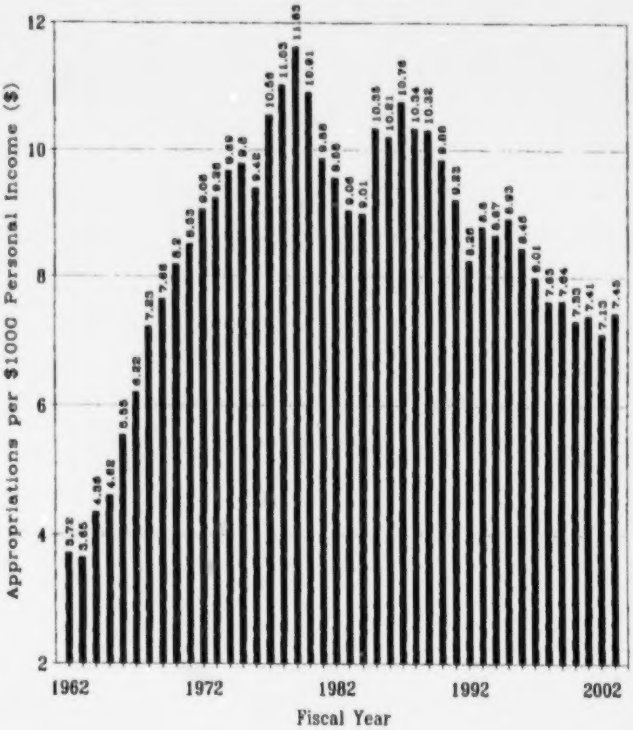
FY1962 to FY2003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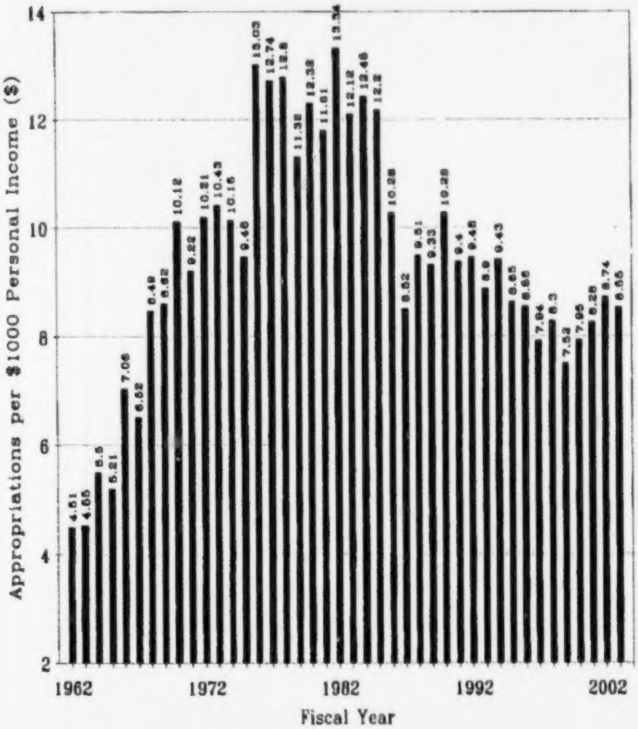
FY1962 to FY2003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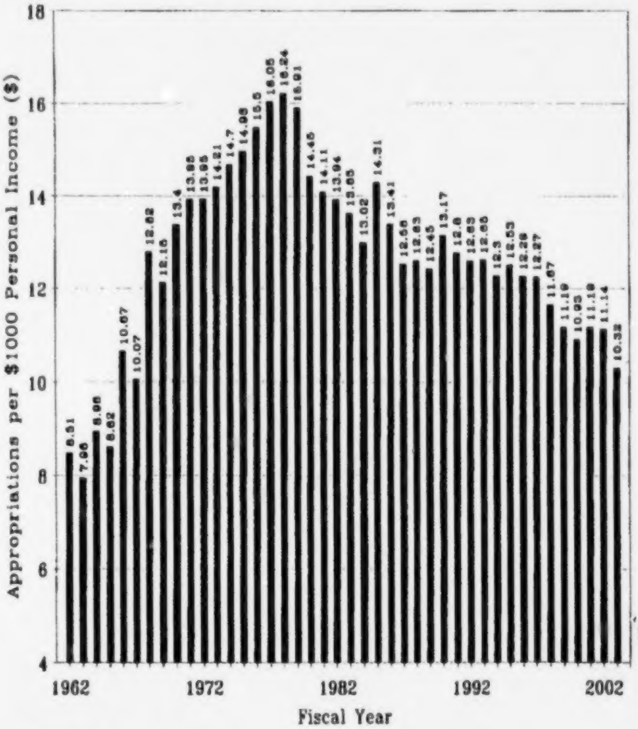
FY1962 to FY2003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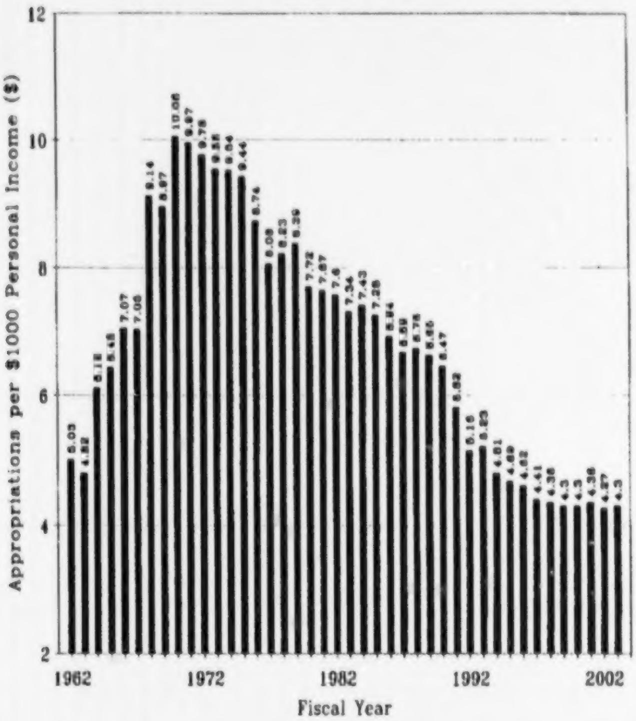
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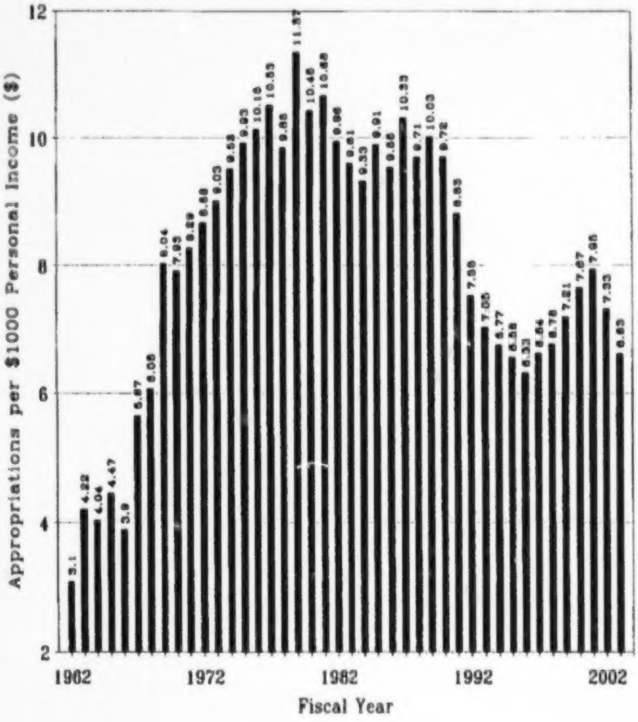
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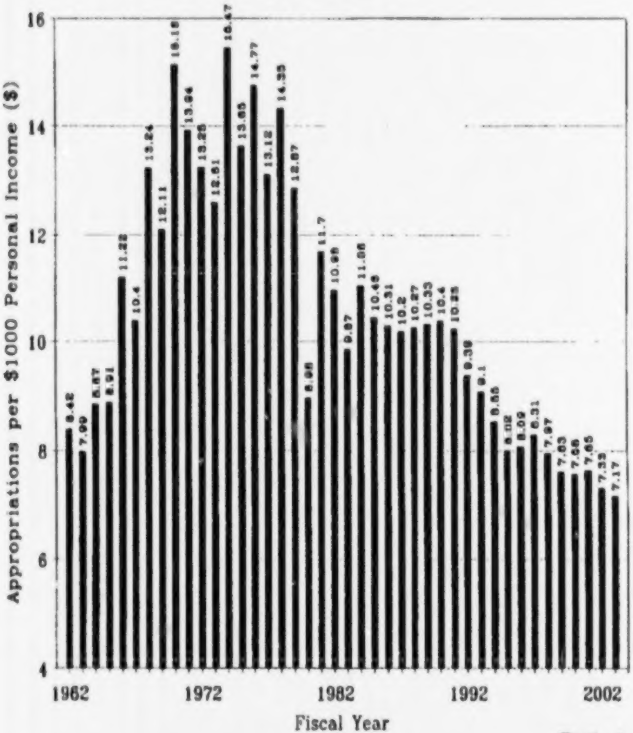
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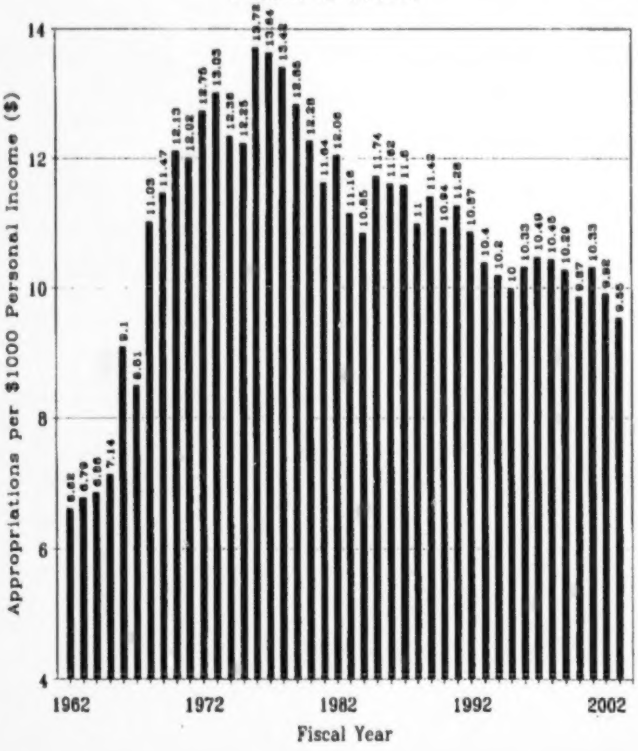
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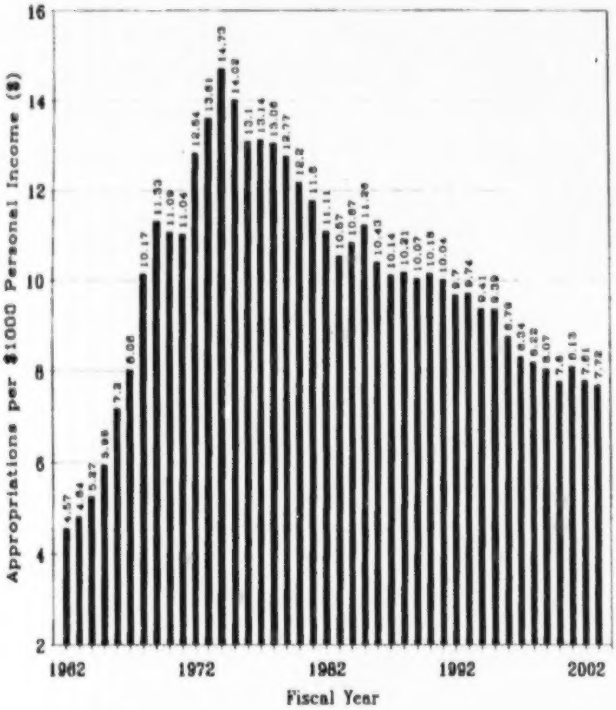

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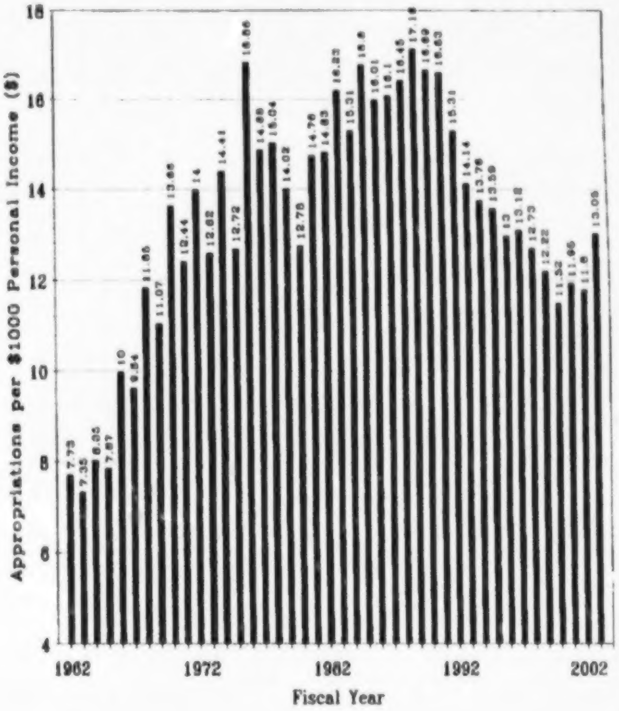

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